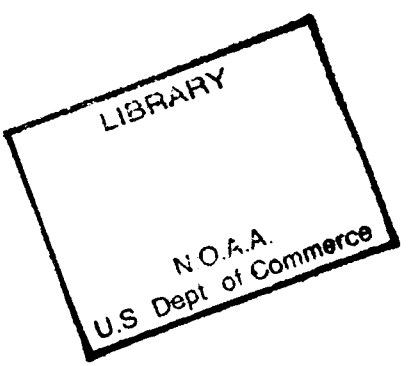
UNITED ARAB REPUBLIC

MONTHLY WEATHER REPORT

VOLUME 12 NUMBER 1

JANUARY, 1969



U.D.C. 551. 506,1 (62)

MINISTRY OF SCIENTIFIC RESEARCH — METEOROLOGICAL DEPARTMENT
CAIRO

National Oceanic and Atmospheric Administration

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PUBLICATIONS OF THE METEOROLOGICAL DEPARTMENT OF THE UNITED ARAB REPUBLIC—CAIRO

In fulfilment of its duties as the National Meteorological service for the U.A.R., the Meteorological Department issues several reports and publications on weather, climate and agrometeorology. The principal publications are described on this page.

Orders for publications should be adressed to :
"The Director General, Meteorological Department, Kubri-el-Qubbeh—CAIRO".

THE DAILY WEATHER REPORT

This report is printed daily in the Meteorological Department. It contains surface and upper air observations carried by the relevant networks of the Republic and made at the four main synoptic hours of observations (00, 06, 12 and 18 U.T.); as well as ship observations over the Eastern Mediterranean and north Red Sea made at the same times.

It also contains two surface synoptic charts at 00 and 12 U.T. and two upper air charts for the standard isobaric surfaces 700 & 500 mbs. at both 00 and 12 U.T. In compliance with resolution 8 (EC-XIII) of WMO, foreign upper air data included in Cairo Subregional Broadcast are also given in this report.

As from January 1968, the daily weather report contents are pressed into a rather less but representative selection of synoptic weather observations and charts.

THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for U.A.R.

THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of the U.A.R. as well as monthly values of certain elements.

THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year .

CLIMATOLOGICAL NORMALS FOR EGYPT

The normals, long averages and statistical data are given in one edition for stations in Egypt from the date of opening of each station up to 1945. A new voluminous edition was issued in March 1968 which brings normals and mean values up till 1960.

CONTENTS

FOREWORD

Since 1909 the Meteorological Department of Egypt has been issuing regularly the Monthly Weather Report, giving a brief summary of the weather conditions prevailing over Egypt during the month. These reports used to include a table giving limited climatological data for some selected surface observations.

On January 1954, the Monthly Weather Report has been revised and the general summary of the weather conditions has been extended to give a more detailed description of the synoptic situations and the associated weather prevailing during the month.

On February 1955 a further extension took place, the general summary of the weather conditions has been classified into different items to give more comprehensive information. More detailed surface climatological tables for selected stations and table for miscellaneous weather phenomena have been added to the Report.

On January 1956, the climatological tables included in the Report have been extended to include upper air climatological data to meet the increasing demand for this information.

In addition the full text of the monthly report of the standard observations taken at the Central Agro-Meteorological Station at Giza has been included in this Report instead of issuing it as a separate bulletin.

On January 1957, the Report has been completely revised, a new set of meteorological tables has been introduced to give, as far as possible, complete information for surface and upper air data from a more representative network of stations.

In addition, a general review of the observations taken in the fields of the plant breeding farm at Giza is included in the Report. The review gives a brief summary of the characteristic features of the different meteorological and micrometeorological elements of the month, more weight is given in this review to those elements which are of interest to agriculturists.

Starting from the Report of January 1958, the Monthly Weather Report for the U.A.R. included a detailed description of the synoptic situations and the associated weather experienced all over the Republic during the month. The Report included a new set of tables giving more detailed surface and upper air climatological data for selected stations in the Republic. The review of the Agrometeorological station at Giza and the normal observations made at the field of the station were also included in the Report.

As from January 1960, these tables have been totally revised and some new tables have been introduced to include more detailed climatological data.

In order to explain how the tables included in these Monthly Weather Reports have been compiled, detailed notes are included in the Report of January 1960 giving informations about the instruments used and their exposure, the methods of observations and the methods of computing the means and frequencies.

As from January 1964, the Monthly Weather Report was again totally revised. The number of meteorological stations appearing in the Report have been concentrated in the main synoptic stations working mostly continuously 24 hours. In addition climatological data included in the Report will be confined to the montlly mean values, monthly totals, monthly frequencies and monthly absolute values. More specific climatological data have to be requested from the Meteorological Department.

Starting from the Report of January 1958, the monthly Weather Report of the U.A.R. carries serial reference in volume and number; each year carries a serial number in volume, Number I, being for January and 12 for December. The reference number of January 1958 is volume I, number I.

Cairo, 15-12-1970

M. F. TAHA

Under Secretary of State
Director General
Meteorological Department

INTRODUCTION AND EXPLANATION OF THE TABLES

For the purpose of this Monthly Weather Report, the United Arab Republic is divided into six climatic districts as follows :

Number	District	Number	District
I	Mediterranean Area	IV	Upper Egypt
II	Lower Egypt	V	Western Desert
III	Cairo Area	VI	Red Sea Area

The data included in Tables A1, A2, A3, A4 & A5, are based on surface observations made at a representative selection of the basic network of synoptic stations. The data included in Tables B1, B2 & B3 refer to Upper Air observations. The data included in Tables C1,C2, C3,C4 & C5, are based on observations taken at the Agro-Meteorological stations at El Kasr, Tahrir, Bahtim and Kharga. The observation fields at these stations are considered for the moment as dry and bare fields. At Kharga Oasis, the observation field is of the size of about 4000 - 6000 square metres.

The soil characteristics of these fields are :

	EL KASR	TAHRIR	BAHTIM	KHARGA
Top soil type	not available at present	Pure sand	not available at present	Sandy loam granular non-compact
Top soil depth	,,	More than 3 metres.	,,	20 cms.
Sub soil type	,,	Pure sand	,,	Platy clay non-compact
Slope of ground and its direction	,,	½ %towards East& North	,,	Flat (0-0.3%)
Level of water table	,,	More than 5 metres	,,	More than 5 metres

Except for the wind speed which is expressed in knots, the metric units are used throughout this report and are as follows :

— The atmospheric pressure is expressed in millibars (one millibar = 1000 dynes per square centimetre = the pressure due to 0.7501 millimetre of mercury at 0°C at latitude 45°),

— Air and soil temperatures in degrees celsius (°C),

— Relative humidity (%),

— Rainfall in millimetres,

— Snow depth in centimetres,

— Duration of bright sunshine in hours,

— Sky cover in octas,

— Evaporation in millimetres,

— Altitude of pressure surface in geopotential metres,

— Mean wind speed of the whole day, and of the day - time and the night - time intervals in metres per second,

— (Solar + Sky) radiation in gram-calories per centimetre square,

— Vapour pressure in millimetres.

TABLE A1.— Monthly values of the Atmospheric Pressure, Air Temperature, Relative Humidity, Bright Sunshine Duration & Piche Evaporation

Atmospheric Pressure.

The monthly mean values of the daily atmospheric pressure corrected to Mean Sea Level (M.S.L.) are the arithmetic means over the month of their corresponding daily hourly values or of the daily observations taken at the 8 synoptic hours (00,03, 06, 09, 12, 15, 18 & 21 UT). The atmospheric pressure is measured by mercury barometers installed indoors; The Mean Sea Level Pressure (M.S.L.) is the barometer reading corrected for the height of the barometer cistern above or (below) the Mean Sea Level at the station. Corrections for index, temperature and latitude have been applied to the barometer readings before reduction to M.S.L. Deviations from normals appear besides monthly mean values in a separate column.

Air Temperature.

The monthly mean values of the maximum (A) and of the minimum (B) air temperatures are computed from their corresponding daily routine values observed over the month. The maximum (mercury) and the minimum (alcohol) thermometers are freely exposed in the louvred screens with their bulbs at a height of 160 to 170 centimetres above the ground. Deviations from normals appear besides monthly mean values.

The monthly mean values of (A +B)/2 are computed from their corresponding daily calculated values over the month.

The monthly mean values of the dry and of the wet bulb air temperatures are the arithmetic means over the month of their corresponding daily hourly values or of their corresponding values at the 8 synoptic hours (00,03, 06, 09, 12, 15, 18 & 21 UT). The dry and wet bulb thermometers used are of the mercury type and are freely exposed in sloping double roofed louvred screens with their bulbs at a height of 140-150 centimetres above the ground. Deviations from normals appear besides monthly mean values in a separate column.

Relative Humidity

The mean daily R. Humidity during the month is derived from the mean daily values of the dry and wet bulb temperatures using Jelinek's Psychrometer Tables (Liebzig 1911). The mean daily values of the dry and wet bulb air temperatures are as indicated in the last paragraph. No corrections for wind speeds or atmospheric pressure are applied. Deviations from normals appear besides monthly mean values in a separate column.

Bright Sunshine Duration

The actual duration of bright sunshine for the month is the sum of the actual daily bright sunshine durations. The total possible duration for the month is the sum of the daily calculated periods between sunrise and sunset. In calculating the possible duration of sunshine for a given day, the periods of cut-off for that day caused by obstacles, such as mountains are eliminated from the possible duration with an ideal flat horizon. In case of stations where the record of day or more is or are missing, the total actual duration is given between brackets and a note is added at the end of the table giving the actual number of records (days) used in summing up this total actual. In such cases the corresponding total possible duration is also given in brackets and it is the sum of the possible duration of the days of the available records. The percentage of the actual to the possible duration appears besides the total possible values in a separate column. The duration of bright sunshine is measured by the Campbell-Stokes sunshine recorders which are suitably exposed.

Evaporation (Piche)

The monthly mean value of Piche evaporation is computed from its daily routine values observed at 0600 UT over the month. Evaporation measurements are taken once daily at 0600 UT and give the evaporation for the previous 24 hours. The evaporation readings are measured by a Piche tube freely exposed in sloping double roofed louvred screens, the evaporation disc has an effective area of 10.1 centimetres square, white in colour, and at a height of 140-150 centimetres above the ground.

TABLE A2.—Maximum & Minimum Air Temperatures

Higher and lower limits of both maximum and minimum temperatures and their corresponding dates of occurrences during the month are extracted from the daily readings of maximum (mercury) and minimum (alcohol) thermometers respectively. These dates are included for acutal occurrences up to three; when exceeding three, the symbol * is added beside the last three dates.

The number of days during the month with maximum air temperature above 25°C, 30°C, 35°C, 40°C & 45°C and with minimum air temperature below 10°C, 5°C, 0°C & —5°C are included also in this table under separate columns.

The types and exposure of the maximum and of the minimum thermometers are as indicated in the notes on table A1.

The monthly mean values of grass minimum temperatures are the arithmetic means over the month of their corresponding daily values. The grass minimum temperatures are measured by ordinary minimum (alcohol) thermometers suitably exposed in the open air at the station field on special stands with their bulbs at a height of 5 centimetres above ground just touching the grass tops if there is any. Grass minimum theromometers readings are taken daily as a routine base at 0600 U.T. Deviations from normals appear besides mean values in a separate column.

TABLE A3.—Sky Cover & Rainfall

The monthly mean values of the total sky cover at the principal hours (00,06,12 & 18 UT) are computed from their corresponding daily routine values observed during the month. Mean values of the daily total sky cover are the arithmetic means over the m onth of the daily hourly values or of the daily observations taken at the 8 synoptic hours (00, 03, 06, 09, 12, 15, 18 & 21 U.T). Sky cover is in octas.

The monthly total rainfall is the total rainfall during the month. The maximum daily rainfall and the number of days with rain < 0.1 and more than or equal 0.1, 1, 5, 10, 25 & 50 mms are extracted from the routine daily rainfall totals during the month. The rainfall for a given day is the amount of rain which has fallen during the 24 hours commencing at 0600U.T of that day; when the amount of rain which has fallen is not large enough to be measured (less than 0.1 mm) the term "Trace" is entered as (Tr.). The amount of rainfall measured includes the water equivalent of the rain water which has frozen after falling and the water equivalent of solid precipitation if any such as hail. Dates of maximum rain in 24 hours are included for actual occurrences up to three; when exceeding three, the symbol* is added besides the last three dates.

The amount of rainfall is normally measured by ordinary rain gauges. Some selected stations are also equipped with a recording type of rain gauge. The rim of both types of gauges are at a height of 90-100 centimetres above the ground.

TABLE A4.— Number of Days of Occurrence of Miscellaneous Weather Phenomena

This table gives the number of days of occurrence of rain, snow, ice pellets, hail, frost, thunderstorm, mist, fog, haze, thick haze , dust or sandrising, dust or sandstorm, gale, clear sky & cloudy sky. Except for rain (see notes on table A3) the days of occurrence of these weather phenomena are those days during which the phenomenon has occurred at any time between 2200, and 2200 U.T.

In compiling this table, the terminology and definitions of these different weather phenomena are as follows.

— A day of rain is the day during which the total amount of rainfall is 0.1 millimetre or more.

— A day of snow is the day druing which snow or snow flakes or snow showers is or are observed even if it is or (they are) so small in quantity as to yield no measurable amounts of precipitation in the rain-gauge.

— A day of ice pellets is the day during which ice pellets are observed even if they are so small in quantity as to yield no measurable amounts of precipitation in the rain-gauge.

— A day of hail is the day during which either one or more of the following types of precipitation is or are observed, even if they are so small in quantity as to yield no measurable precipitation in the rain-gauge :

— Soft hail
— Small hail
— Hail stone

— A day of frost is the day during which frost is observed at the station.

— A day of thunderstorm is the day during which thunder is heard at the station whether lightning is seen or not. A day on which lightning is seen but thunder is not heard at the station is not ounted as a day of thunderstorm.

— A day of mist is the day during which the surface horizontal visibility at the station has deteriorated and became equal to or greater than 1000 metres due to mist.

— A day of fog is the day during which the surface horizontal visibility at the station has deteriorated and fell below 1000 metres due to fog.

— A day of haze is the day during which the horizontal visibility at the station has deteriorated and became equal to or greater than 1000 metres due to haze.

— A day of thick haze is the day during which the horizontal visibility at the station has deteriorated and fell below 1000 metres due to thick haze.

— A day of dust or sandrising is the day during which the horizontal visibility at the station has deteriorated and became equal to or greater than 1000 metres due to dust or sandrising.

— A day of dust or sandstorm is the day during which the horizontal visibility at the station has deteriorated and fell below 1000 metres due to dust or sandstorms.

— A day of gale is the day during which the mean surface wind speed reached or exceeded 34 knots at the station for at least 10 minutes.

— A day of clear sky is the day on which the mean cloud amount at the station is less than 2/8.

— A day of cloudy sky is the day on which the mean cloud amount at the station is 6/8 or more

As regards the last two items above, the mean cloud amount for a day is the mean of the 24 hours, the 8 synoptic hours or the 4 main synoptic hours of cloud observations according to the number of the routine observations taken at the station.

TABLE A5.— Number in Hours of Occurrences of Concurrent Surface Wind Speed and Direction Recorded Within Specified Ranges.

The elements used in preparing this table are the mean hourly values of the surface wind speed and the corresponding mean hourly values of direction taken from the daily records of the surface wind instruments intsalled at the station. These mean hourly values are extracted for every hour of each day of the month and they refer to a period of 60 minutes centred at the hour.

The number in hours of occurrences of the surface wind falling within the ranges of speed and direction indicated in the table is the number of cases when the mean hourly values of the surface wind as defined have satisfied these ranges.

The number in hours of "variable" winds is the number of cases where the surface wind showed no definite direction over the period of the 60 minutes centred at the hour or when the wind vane was sticking over that period due to the lightness of the wind and not responding to the variation in wind direction; in such cases the mean wind speed over this period is normally less than 5 knots. The number in hours of "calm" winds is the number of cases where the surface wind has a mean speed of less than one knot over that period, whatever the mean wind direction over the same period is. The number in hours during which the recording instrument failed to record over the whole month is given under a separate column.

The instruments used for recording the surface wind are of the Dines Pressure Tube Anemograph.

This table follows the general lines of Model B of chapter 12 part IV of the WMO Technical Regulations 1959. The ranges of wind speed are (1-10), (11-27), (28-47) knots and 48 knots or more; the ranges for wind direction are twelve ranges of 30° each, beginning with the range (345°-014°) as being the true north.

This table gives the following data :

— The total number in hours of simultaneous occurrences of surface wind satisfying the specified ranges of speed and direction during the month,

— The total number in hours of occurrences of surface wind satisfying the specified ranges of speed during the month irrespective of their direction,

— The total number in hours of occurrences of surface wind blowing from the specified ranges of direction during the month irrespective of their speed.

TABLE B1.—Upper Air Climatological Data

The routine upper air observations are taken at 0000 and 1200 U T , a separate table of this type is prepared for each hour. The number of cases the height of each of the pressure surfaces indicated in the table has been attained during the month, and the number of cases the temperatures and the dew points have been observed at each of these surfaces are given in the table against each element under column (N).

The monthly mean values of the altitude, temperature and dew piont at each of these pressure surfaces are the arithmetical means of the corresponding daily values over the number of cases (N) indicated against each element.

The instruments used are of the radiosonde modulating frequency recording type; the types of transmitters used do not need to apply any corrections for radiation.

This table follows the general lines recommended by the commission for climatology of the World Meteorological Organization Rec. 34 (CCL-1); it gives the following data for the hour of observation indicated at the top of the table :

— The number of cases the height of each of the pressure surfaces has been attained during the month and the number of cases the temperature and dew point at these surfaces have been observed,

— The monthly mean values of the atmospheric pressure corrected to the ground level of the station (H); the highest and lowest values of this pressure observed during the month,

— The monthly mean values of the air temperature and of the dew point at the surface; the highest and lowest values of the surface air temperature observed during the month,

— The monthly mean, the highest and the lowest values of the altitude for each of the pressure surfaces,

— The monthly mean, the highest and the lowest values of air temperature; and the mean dew point at each of the pressue surfaces.

TABLE B2.— Mean and Extreme Values of the Freezing Level and the Tropopause; The Highest Wind Speed in the Upper Air.

The routine upper air observations are taken at 0000 and 1200 UT ; a separate table of this type is prepared for each hour as indicated in the notes on table B1. The number of cases the altitude of the freezing level and of the first tropopause have been attained during the month and the number of cases the pressures and the dew points or temperatures have been observed at these levels are given in the table against each element in the (N) box.

The monthly mean values of the altitudes of the freezing level and of the first tropopause and the monthly mean values of the pressures and of the dew points or temperatures at each of these levels are the arithmetical means of the corresponding daily values over the number of cases (N) indicated in the box of each element.

The first tropopause is determined in accordance with the definition adopted by the Executive Committee of the World Meteorological Organization Resolution 21 (Ec - IX).

This table is based on wind observations taken by the SCR — 658 or the Metox radiotheodolites working simultaneously with the radiosonde observations. The types of radiosonde instruments used are given in the notes on table BI.

This table gives the following data for each hour of observation indicated at the top of the table :

— The number of cases the freezing level has been attained during the month and the number of cases the pressure and dew point have been observed at this level.

— The number of cases the altitude of the first tropopause has been attained during the month and the number of cases the pressure and the temperature have been observed at this level.

— The monthly mean values of the altitude, pressure and dew point of the freezing level.

— The altitudes, pressures and dew points of the highest and lowest freezing level observed during the month,

— The monthly mean values of the altitudes, pressures and temperatures of the first tropopause,

— Ths altitudes. pressures and temperaturcs of thc highest and lowest first tropopause observed during the month.

— The direction and speed of the highest wind speed observed during the month, the altitude at which this wind has been observed.

TABLE B3.—Number of Occurrences of Wind Direction Within Specified Ranges and the Mean Scalar Wind Speed at the Standard and Selected Pressure Surfaces

The routine upper air observations are taken at 0000 and 1200 U.T. A separate table of this type is used for each station.

The mean scalar wind speed "ffm" of winds blowing from each range of directions at a given pressure surface, is the arithmetical mean of the corresponding daily values of wind speed for the number of cases "N" during the month.

The term "Calm" is used in this table to denote wind speed of less than one knot.

This table is based on the wind observations taken at the station as indicated in the notes on table B2.

This table, as in the case of table B 1, follows the general lines recommended by the commission for Climatology of the World Meteorological Organization REC. 34 (CCL-I) ; the ranges of wind direction used are twelve ranges of 30°each be ginning with the rang: (345°—014°) as being the true north. It gives the following data for the hour of observation indicated :

—The number of cases (N) the wind has been observed from the specified ranges of direction at the surface of the station and at the different pressure surfaces during the month.

—The total number of cases (TN) the wind has been observed at the surface of the station and at the different pressure surfaces during the month irrespective of the wind direction,

—The mean scalar wind speeds (ffm) blowing from the specified ranges of direction at the surface of the station and at the different pressure surfaces,

—The number of cases of " calm" winds at the surface of the station and at the different pressure surfaces,

—The mean scalar wind speeds at the surface of the station and at the different pressure surfaces blowing from all directions

AGRO—METEOROLOGICAL DATA

Reviews of Agrometeorological Stations at El-Kasr, Tahrir, Bahtim & Kharga.

The monthly review of all agrometorological elements that have been observed at each agro-meteorological station includes a general summary of pronounced weather phenomena that prevailed during the month together with a comparison between the monthly values of this year and last year of specified elements that are of great interest to agriculturists as well as to agrometeorologists. For some elements, when observations are of a long time, departure from normal values appears also in the monthly review.

During winter, the monthly review includes normally the days of minimum air temperature below 0°C at the height of five centimeters above the ground.

TABLE C1.—Air Temperature at 1½ Metres Above Ground

The monthly mean values of the maximum, minimum, night-time mean, day-time mean and mean of day of air temperatures are the arithmetic means over the month of their corresponding daily values. The mean air temperature of a day is the mean of the eight values of the dry bulb temperature occurring at each of the principal and secondary observation hours, the value at 0000, 0300, & 2100 U.T. being extracted from the record of the dry bulb thermometer of a mercury in steel hygrograph, except at Kharga where they are obtained from visual readings.

The night-time mean temperature of a day is the mean temperature for the period from sunset of the previous day to sunrise of the same day. The day-time mean temperature refers to the period from sunrise to sunset of the same day. Both night-time and day-time mean temperatures are computed from empirical formulae, which may vary from month to month but are common for all centres. These formulae were found by trial comparison with true means of the year 1966. The errors were never permitted to reach a whole degree, and usually stayed equal to or lower than 0.5°C.

The duration of air temperatures above a specified limit of temperature is obtained graphically from the same recording charts, daily to the nearest whole hour.

The maximum (mercury), the minimum (alcohol) and the dry bulb (mercury ventilated) thermometers are freely exposed in louvred Stevenson screens of the Egyptian type with their bulbs at a height of 190 - 195 centimetres above ground for the maximum and minimum thermometers, and 170 cms approximately for the dry bulb thermometer ; the recording thermometer used is of the bi-metallic type and is exposed in a similar screen ; the height of the bi-metallic piece is 165 centimetres approximately above the ground.

TABLE C 2.—Extreme Values of Maximum & Minimum Air Temperatures at 1½ metres above Ground, Absolute Minimum Air Temperature at 5 cms above Ground over Different Fields.

The extreme values of maximum and minimum air temperatures at 1½ metres above ground and of minimum air temperatures at 5 cms above ground over dry fields are extracted from their routine values. Dates of occurrences are included in separate columns beside the extreme value. Extreme values of maximum & minimum air temperature at 1½ metres include the Highest & Lowest limits of the daily corresponding routine values during the month.

The thermometers used for minimum air temperature at 5 cms above ground are of the ordinary minimum type (alcohol) with the bulbs screened with small separate screens of horizontal 5 cm. length and 2 cm. diameter metal tubing painted white outside andblack inside, and centered on the thermometer bulbs.

TABLE C 3.—(Solar + Sky) Radiation, Duration of Bright Sunshine, Relative Humidity, Vapour Pressure at 1½ meters above Ground, Evaporation & Rainfall.

The monthly total values of the (solar+sky) Radiation, Bright Sunshine duration, Evaporation & Rainfall are the sums of their corresponding daily values for the month. The monthly mean values of the (Solar + Sky) Radiation, Relative Humidity & Vapour pressure at 1½ metres and Evaporation are the arithmetic means of their corresponding daily values for the month respectively.

The (solar + Sky) Radiation is obtained from the records of a Robitzsch Actinograph ; the Robitzch values at Bahtim and Tahrir are regularly compared with the records of an Epply pyrheliometer installed at the station. The sensitive elements of the Robitzsch Actiongraph and of the Epply pyrheliometer are at 100 cms approximately above the ground.

The types of insturments used for the measurement of the duration of birght sunshine, their exposure and the evaluaItion of the durations are as given in the notes on table A1.

The relative humidity and vapour pressure values are derived from the readings of ventilated dry and wet bulb mercury thermometers freely exposed in the screen using the Aspirations psychrometer Tafeln of the Deutschen Wetterdienst 1955. The height of the bulbs is 170 cms approximately above the ground.

The mean relative humidity or vapour pressure for a given day is the mean of the eight principal and secondary observation values which are extracted from the readings of the dry and wet bulb thermometers, the values at 0000, 0300, and 2100 U.T. being extracted from the records of the mercury in steel hygrograph except at Kharga where these values are obtained from visual readings of the dry and wet bulb thermometers.

The monthly values of the relative humidity or vapour pressure are the means of the corresponding mean daily values during the month. The lowest value of the relative humidity and its date of occurrence are obtained from the records of a hair hygrograph exposed in the screen, the height of the hair is 170 centimetres approximately above the ground.

The extreme maximum and minimum values of vapour pressure during the month are extracted from the values of the eight prinicipal and seconday observations.

Evaporation measurements are taken once daily at 0600 U.T. from a Piche tube and also a class "A" evaporation pan and give the evaporation for the previous 24 hours. The Piche tube is installed in the screen with the dry bulb, maximum and minimum thermometers ; the colour and effective area of the evaporation disc are as given in the notes on table A1. The class "A" evaporation pan is of the type recommended by the commission of instruments and methods of observation of the World Meteorological Organization Rec 42 (CIMO-56) ; it is of a cylindrical shape, 25 4 centimetres deep, 120.6 centimetres in diameter (inside dimentions). The pan is freely exposed in the open air in the dry field, its rim at a height of 41 centimetres above ground away from obstacles such as buildings or trees.

The types of instruments used for measuring the amount of rainfall, their exposure and the evaluation of these amounts are given in the notes on table A3.

TABLE C 4.—Extreme Soil Temperature at Different Depths (cms) in Dry Fields

The highest and lowest values of soil temperatures at the selected depths in dry fields are extracted from their corresponding daily routine values.

The soil temperature readings are taken in the dry fields at the specified depths ronging from 2 cms to 300 cms in each field as indicated in the table These readings are taken regularly during the period from 0600 to 1800 U.T. according to the following schedule. except at Kharga where the observations are as appropriate but extend in the peirod between 1800 & 0600 U.T.

— at 0600 U.T. and every three hours for the 2,5 and 10 cms depths.

— at 0600 U.T. and every six hours for the 20 and 50 cms depths.

— at 1200 U.T. for the 100 and 200 cms. depths.

— at 0900 U.T. once every 3 days for the 300 cms depth.

The thermometers used are of the Fuess or the Fricdrich types.

TABLE C 5.—SURFACE WIND.

The monthly values of the daily mean, the night time mean and of the day time mean of the surface wind speed is the arithmetic mean of their corresponding daily evaluated values for the month respecti vely. The mean wind speed of the day is computed for the period of 24 hours from 1800 U.T. of the previous day; the night-time mean wind speed of the day is obtained from the total run of air during the period 1800 U.T. of the previous day to 0600 U.T. of that day ; the day-time mean is similarly computed for the period 0600 to 1800 U.T. of the same day. The type of the wind instrument used is of the run counter of the Lambrecht type ; the cups of which are at 1½ metres above the ground.

The number of days with surface wind speed reaching or exceeding specified values of velocities (≥10 Knots, ≥15 Knots, ≥20 Knots, ≥25 Knots, ≥30 Knots, ≥35 Knots and ≥40 Knots) for at at least 5 minutes at any time between 2200 & 2200 U.T. irrespective of its direction are extracted from the daiiy routine analysis of surface winds records during the whole month. The daily records of the Dine Pressure Tube Anemograph are used, the highest gust refer to the highest excursion made by the velocity pen on the records during the month. The head of the instroment is at a height of 10 metres above the ground level.

LIST OF STATIONS APPEARING IN THE REPORT — SYNOPTIC AND CLIMATOLOGICAL STATIONS

District	Station	Index Number II iii	Latitude °N	Longitude °E	Elevation of the ground in metres (H or Ha)	Altitude of the Station in metres (Hp)	Altitude of the barometer Cistern in metres	Height of Wind recording instruments (metres) above		Synoptic Observations								Hourly Observations (H) Half hourly obs. (h) (0000—2400)	Upper air observations P (Pilot Ballon) W (Radio wind) R (Radio Sonde)				Remarks
								above building	above ground	00	03	06	09	12	15	18	21		00	06	12	18	
Mediterranean	Sallum	62 300	31 32	25 11	4.0	6.0	5.2	10	14	×	×	×	×	×	×	×	×	H	P	—	P	—	
	Mersa Matruh (A)	306	31 20	27 13	28.3	30.0	30.0	8	15	×	×	×	×	×	×	×	×	H	R	W	R	W	
	Alexandria (A)	318	31 12	29 57	— 3.4	7.0	6.8	10	18	×	×	×	×	×	×	×	×	H	P	—	P	—	
	Port Said (A)	333	31 17	32 14	1.9	6.1	6.1	10	19	×	×	×	×	×	×	×	×	H	P	—	P	—	
	El Arish	336	31 07	33 45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	Ghazza	338	31 30	34 27	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Lower Egypt	Tanta	348	30 47	31 00	14.0	14.8	15.4	10	14	×	×	×	×	×	×	×	×	H	—	—	—	—	
Cairo Area	Cairo (A)	366	30 08	31 34	94.7	74.5	74.0	14	18	×	×	×	×	×	×	×	×	h	—	—	—	—	
	Helwan	378	29 52	31 20	139.3	—	—	10	20	—	—	—	—	—	—	—	—	—	R	W	R	W	
Upper Egypt	Fayoum	381	29 18	30 51	22.0	23.3	23.2	10	14	—	—	×	×	×	×	×	—	H	—	—	—	—	
	Minya (A)	387	28 05	30 44	29.0	40.0	44.2	7	10	×	×	×	×	×	×	×	×	H	P	—	P	—	
	Assyout (A)	393	27 11	31 06	71.0	69.6	69.5	15	20	×	×	×	×	×	×	×	×	H	—	—	—	—	
	Luxor (A)	405	25 40	32 42	94.9	88.5	88.4	7	15	×	×	×	×	×	×	×	×	H	P	—	P	—	
	Aswan (A)	414	23 58	32 47	200.0	193.5	200.0	10	14	×	×	×	×	×	×	×	×	H	R	W	R	W	
Western Desert	Siwa	417	29 12	25 29	— 15.0	—13.5	—13.3	10	17	×	×	×	×	×	×	×	×	H	P	—	P	—	
	Bahariya	420	28 20	28 54	128.0	129.5	129.6	—	—	×	×	×	×	×	×	×	×	H	P	—	P	—	
	Farafra	423	27 03	27 58	90.0	91.8	92.1	—	—	—	—	×	×	×	×	×	—	H	—	—	P	—	
	Dakhla	432	25 29	29 00	110.0	111.5	111.5	10	15	×	×	×	×	×	×	×	×	H	P	—	P	—	
	Kharga	435	25 27	30 32	77.8	72.8	78.8	10	15	×	×	×	×	×	×	×	×	H	P	—	P	—	
Red Sea	Tor	459	28 14	33 37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	Hurghada	462	27 17	33 46	1.0	2.8	2.8	8	12	×	×	×	×	×	×	×	×	H	—	—	P	—	
	Quseir	465	26 08	34 18	8.0	11.3	11.3	12	15	×	×	×	×	×	×	×	×	H	—	—	—	—	

GENERAL SUMMARY OF WEATHER CONDITIONS

JANUARY 1969

Cold Weather in the Northern and Central parts, Rather Cold and dry in the Southern Parts. Abnormally High Rainfall in the North

GENERAL DESCRIPTION OF WEATHER

The prevailing weather during this month was generally cold in the northern and central parts. and rather cold in the southern parts. Weather was remarkably cold night time, especially in the Western Desert and north of Upper Egypt areas. where minimum temperature approached 0°C during many nights. Three pronounced cold waves prevailed most days of this month ; the third cold wave was the most intense and longest; it prevailed from the 19th till the end of the month. The cold waves were separated by short periods of mild weather round the 2nd, 11th and 17th.

Light to moderate rain fell over the northern parts during many days of this month, and extended southwards during few days. Rain was locally heavy and associated with thunderstorms over the Mediterranean district, mainly during the last cold wave.

Rising sand occurred over scattered parts, mostly in association with frontal passages round the 4th, 12th, 18th, 28th. Early morning mist and fog developed during few days over scattered places in Delta, Canal & Cairo areas and in north of Upper Egypt district.

PRESSURE DISTRIBUTION

The most outstanding pressure systems on the synoptic surface maps during this month were :

— The Siberian anticyclone.

— Deep low pressure systems through North Eurasia.

— Secondary depressions through the Mediterranean and its vicinities.

— The subtropical high pressure belt over the Atlantic and North Africa.

During this month, four low pressure systems traversed the Mediterranean. The first complex low developed over Central Mediterranean on the 1st. This system moved slowly eastwards reaching Cyprus area on the 6th, where it amalgamated in one depresion which remained quasistationary till it filled up there on the 8th.

The second Mediterranean depression developed over the gulf of Genewa on the 8th. It moved to Central Mediterranean on the 9th, meanwhile a desert secondary formed over west of the Libyan Desert. This system proceeded eastwards passing through East Mediterranean and U.A.R. on the 13th.

The third depression formed on the 16th also over the gulf of Genewa. It moved slowly eastwards reaching Cyprus area on the 20th where it deepened appreciably till the 21,then it proceeded eastwards while filling on the 22nd.

The fourth and last complex low during this month appeared over East Mediterranean on the 25th; it amalgamated in one centre over Cyprus on the 26th, then it proceeded eastwards next day towards Iraq.

As a result of the transit of the above mentioned four depressions through East Mediterranean area, the barometric pressure in U.A.R. showed four oscillations and

emained below its normal most days of the nonth with pronounced minima round the 5th, 13th, 21st & 27th.

High pressure established over U.A.R. after he passage of the Mediterranean troughs. t extended either from the subtropical high ressure belt, or from the Siberian anticyclone W ridge. As a result the barometric pressure n U.A.R. was above its normal round the hort periods : (8-11), (14-15), (24-25) and 28-31).

The most important features of pressure istribution over the synoptic upper air charts ere :

— Two deep upper lows, one over North Russia and the other over North Atlantic

— Secondary upper lows or troughs over ne Mediterranean and its vicinities, travers-ng East Mediterranean and north of U.A.R. n the 9th, 13th, 23rd and 28.

SURFACE WIND

The prevailing winds in the northern parts f the Republic were generally light to oderate SWly; they changed to NWly during w days, mainly after the passage of the editerranean troughs through U.A.R.

In Upper Egypt and Western Desert districts ght to moderate W, NW winds prevailed; ough SWly winds blew during several days.

The Red Sea area was characterized by e prevalence of light to moderate N, NE inds most days of the month.

Winds become fresh to strong during veral days by the passage of Mediterranean oughs, and mainly during the period (17th-rd). On the other hand calms were fre-ent most of night and early morning tervals in scattered parts.

Gales were reported at Balteem on the 28th & 29th and at Hurghada on the 29th.

TEMPERATURE

Maximum air temperature was much changeable and generally below normal. Its values ranged most days of the month between 15°C and 21°C in the northern and central parts, between 19°C & 26°C in the southern parts.

The absolute maximum air temperature for the month was 29.1°C recorded at Kom Ombo on the 18th.

Minimum air temperature was much changeable, round normal in the northern parts, and below normal most days of the month in the central and southern parts : Its values ranged most of the month between 5°C, 12°C in the northern and southern parts, and between 1°,8°C in the central parts.

The absolute minimum air temperature for the month was -1.4°C recorded at Siwa on the 5th.

PRECIPITATION

Rain fell over the northern parts during many days of this month, and extended to scattered places in the central parts during few days. The daily rainfall was light to moderate in general, though it was heavy over the Mediterranean district during several days, particularly on the 21st, 22nd & 27th. The monthly rainfall was above normal in general.

The highest daily rainfall was 43.0 mm recorded at Alexandria on the 22nd.

The highest monthly rainfall was 176.4mm at Ras El Teen.

M. F. TAHA

Under Secretary of State
Director General
Meteorological Department

Cairo, 15 / 12 / 1970

Table A 1. — MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION.

JANUARY — 1969

STATION	Atmospheric Pressure (mbs) M.S.L.		Air Temperature °C									Relative Humidity %		Bright Sunshine Duration (Hours)			Piche Evaporation (mms)
			Maximum		Minimum		$\frac{A+B}{2}$	Dry Bulb		Wet Bulb							
	Mean	D.F. Normal or Average	(A) Mean	D.F. Normal or Average	(B) Mean	D.F. Normal or Average		Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Total Actual	Total Possible	%	Mean
Sallum	1014.2	— 3.3	17.1	— 1.8	9.4	+ 0.2	13.2	12.8	— 1.4	9.2	— 1.1	59	+ 1	—	—	—	6.4
Mersa Matruh (A)	1013.9	— 3.5	16.6	— 1.6	7.8	— 0.5	12.2	11.7	— 1.2	9.3	— 0.5	72	+ 7	—	—	—	5.8
Alexandria (A)	1014.5	— 3.2	16.9	— 1.6	8.9	— 0.4	12.9	12.6	— 1.0	10.0	— 1.0	70	0	176.4	322.3	55	4.3
Port Said (A)	1013.8	— 3.6	16.8	— 1.3	10.0	— 1.4	13.4	12.8	— 1.5	10.5	— 1.4	74	+ 2	177.9	322.3	55	3.8
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1014.9	— 2.5	17.5	— 2.2	7.3	+ 1.1	12.4	11.8	— 0.8	9.2	— 0.8	66	— 4	188.3	323.4	58	3.5
Cairo (A)	1015.0	— 3.0	17.5	— 1.5	8.5	— 0.3	13.0	12.8	— 1.0	9.1	— 1.0	58	— 1	—	—	—	9.1
Fayoum	—	—	18.6	— 1.8	5.5	— 0.8	12.0	11.7	— 1.6	8.6	— 1.3	63	+ 2	—	—	—	3.2
Minya (A)	1016.0	— 2.6	18.8	— 1.9	2.9	— 1.1	10.8	10.8	— 1.1	7.6	— 0.6	61	+ 3	241.0	328.8	73	5.9
Assyout (A)	1015.7	— 3.1	19.7	— 1.1	5.8	— 1.0	12.8	12.3	— 1.3	8.4	0.0	55	+ 9	—	—	—	7.2
Luxor (A)	1015.8	— 1.3	21.1	— 2.0	4.4	— 1.2	12.8	12.9	— 1.3	8.5	— 1.0	51	— 1	—	—	—	4.4
Aswan (A)	1015.8	— 1.2	22.3	— 1.9	7.1	— 1.3	14.7	14.2	— 1.8	7.8	— 1.3	33	0	—	—	—	10.7
Siwa	1014.9	— 3.8	18.7	— 1.0	5.8	+ 1.5	12.2	12.0	+ 0.1	7.7	— 0.2	51	— 1	—	—	—	6.1
Bahariya	1015.7	— 2.9	18.8	— 1.2	5.2	+ 0.7	12.0	11.7	— 1.1	7.4	— 0.9	50	0	—	—	—	5.3
Farafra	—	—	19.3	— 1.5	4.2	— 0.2	11.8	—	—	—	—	—	—	—	—	—	—
Dakhla	1017.3	— 0.8	20.0	— 1.5	2.5	— 1.8	11.2	11.2	— 1.3	6.8	— 0.2	51	+14	—	—	—	6.7
Kharga	1016.6	— 1.4	20.7	— 0.5	3.3	— 2.6	12.0	12.1	— 2.1	6.8	— 2.0	45	0	298.9	334.6	89	7.4
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	1014.6	— 2.1	20.8	0.0	8.7	— 1.0	14.8	15.0	— 0.9	10.1	— 0.9	50	— 2	—	—	—	9.7
Quseir	1015.4	— 1.1	21.5	— 1.1	12.5	— 1.3	17.0	17.1	— 1.2	11.4	— 1.5	46	— 3	—	—	—	10.5

Table A2. — MAXIMUM AND MINIMUM AIR TEMPERATURES

JANUARY — 1969

Station	Maximum Temperature °C									Grass Min. Temp.		Minimum Temperature °C							
	Highest	Date	Lowest	Date	No. of Days with Max-Temp.					Mean	D. From Normal	Highest	Date	Lowest	Date	No. of Days with Min. Temp.			
					≥ 25	>30	≥ 35	>40	≥ 45							<10	<5	<0	<-5
Sallum	21.4	17	13.3	28	0	0	0	0	0	9.3	—	14.5	11	5.7	4	21	0	0	0
Mersa Matruh (A)	22.6	17	11.6	28	0	0	0	0	0	—	—	12.5	12	3.8	5	29	2	0	0
Alexandria (A)	21.6	17	12.0	22	0	0	0	0	0	7.5	—	11.8	12	5.7	6	23	0	0	0
Port Said (A)	23.5	17	12.6	29	0	0	0	0	0	9.7	—	15.0	1	6.6	28·29	17	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	23.1	17	11.4	28	0	0	0	0	0	—	—	11.4	12	3.8	10	27	3	0	0
Cairo (A)	24.8	17	11.1	28	0	0	0	0	0	—	—	12.5	1	4.0	2	23	1	0	0
Fayoum	25.9	17	13.4	28	1	0	0	0	0	3.5	—	11.1	20	2.6	6	29	13	0	0
Minya (A)	25.3	17	14.9	22	1	0	0	0	0	1.1	—	9.8	20	0.0	6	31	22	0	0
Assyout (A)	28.0	17	14.7	29	2	0	0	0	0	3.5	—	11.2	21	2.8	29	29	10	0	0
Luxor (A)	27.2	17	16.6	28	6	0	0	0	0	2.4	—	8.6	13	0.6	7	31	19	0	0
Aswan (A)	28.4	18	15.5	29	8	0	0	0	0	—	—	10.4	22	3.5	30	29	3	0	0
Siwa	26.4	17	13.4	27	2	0	0	0	0	4.1	—	13.5	20	—1.4	5	28	13	1	0
Bahariya	26.1	17	14.7	29	1	0	0	0	0	3.4	—	11.6	12	0.9	3·5	29	17	0	0
Farafra	28.5	17	13.7	23	2	0	0	0	0	3.4	—	9.7	13	—1.2	30,31	31	20	2	0
Dakhla	26.6	17	14.8	29	3	0	0	0	0	—	—	8.1	21	—1.2	3	31	26	1	0
Kharga	25.2	17	15.8	29	1	0	0	0	0	1.2	—	8.3	21	0.4	10	31	26	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	25.0	18	16.7	29	0	0	0	0	0	—	—	12.3	4	5.6	8	24	0	0	0
Quseir	25.8	21	16.8	29	1	0	0	0	0	11.1	—	16.6	4	9.1	6	3	0	0	0

Table A 3.—SKY COVER AND RAINFALL

JANUARY – 1969

Station	Mean Sky Cover Oct.					Rainfall mms.										
	00 U.T.	06 U.T.	12 U.T.	18 U.T.	Daily Mean	Total Amount	D. From Normal	Max. Fall in one day		Number of Days with Amount of Rain						
								Amount	Date	<0.1	≥0.1	≥1.0	≥5.0	≥10	≥25	≥50
Sallum . . . . . (A)	4.8	4.1	5.1	4.5	4.6	36.2	+17.4	10.1	20	0	12	7	3	2	0	0
Mersa Matruh . . . . . (A)	3.6	4.6	5.3	3.9	4.2	86.8	+56.1	24.9	21	1	15	11	6	4	0	0
Alexandria . . . . . (A)	4.8	5.5	5.9	4.8	5.1	158.3	+109.2	42.6	22	0	17	13	8	5	2	0
Port Said . . . . . (A)	—	4.1	4.4	—	—	14.5	+ 2.0	6.2	19	1	11	4	1	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	2.0	3.4	4.1	3.0	3.0	13.6	+ 3.4	3.7	12	0	10	3	0	0	0	0
Cairo . . . . . (A)	2.5	4.3	4.5	2.9	3.6	13.8	+ 8.7	4.0	12	3	10	5	0	0	0	0
Fayoum	—	3.4	4.4	3.5	—	0.3	— 0.7	0.1	21.26.27	4	3	0	0	0	0	0
Minya . . . . . (A)	0.5	2.5	3.1	1.3	1.9	0.6	+ 0.2	0.6	12	4	1	0	0	0	0	0
Assyout. . . . . (A)	0.4	1.5	2.7	1.2	1.2	tr.	0.0	tr.	22	1	0	0	0	0	0	0
Luxor . . . . . (A)	0.5	0.7	1.6	1.4	1.0	0.6	0.1	0.0	—	0	0	0	0	0	0	0
Aswan. . . . . (A)	0.6	0.8	1.5	0.8	0.9	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Siwa	2.5	2.3	3.4	2.2	2.8	3.4	+ 2.5	1.5	22	0	6	2	0	0	0	0
Bahariya	1.0	2.2	3.3	1.0	1.4	3.7	+ 3.7	2.4	12	1	2	2	0	0	0	0
Farafra	—	1.6	2.6	0.6	—	8.9	+ 8.9	7.7	23	0	3	1	1	0	0	0
Dakhla	0.5	0.4	2.0	0.6	0.9	5.0	+ 5.0	5.0	23	0	1	1	1	0	0	0
Kharga	0.0	0.5	2.0	0.9	0.8	tr.	+ 0.1	tr.	18.23	2	0	0	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	1.1	1.5	2.4	1.9	1.7	0.0	— tr.	0.0	—	0	0	0	0	0	0	0
Quseir	0.4	1.9	1.9	1.4	1.4	tr.	0.0	tr.	23	1	0	0	0	0	0	0

Table A 4. — DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA.

JANUARY — 1969

Station	Precipitation				Frost	Thunderstorm	Mist Vis ≥1000 metres	Fog Vis <1000 Metres	Haze Vis ≥1000 Metres	Thick Haze Vis <1000 Metres	Dust or Sandrising Vis ≥1000 Metres	Dust or Sandstorm Vis <1000 Metres	Gale	Clear Sky	Cloudy Sky
	Rain	Snow	Ice. Pellets	Hail											
Sallum (A)	12	0	0	0	0	0	0	0	1	0	6	0	0	2	3
Mersa Matruh (A)	14	0	0	0	0	0	0	1	0	0	5	1	0	6	7
Alexandria (A)	16	0	0	0	0	2	1	3	0	0	1	0	0	0	12
Port Said (A)	12	0	0	0	0	0	2	0	0	0	0	0	0	—	—
Al Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	11	0	0	0	0	0	4	0	0	0	0	0	0	12	0
Cairo (A)	10	0	0	0	0	0	4	2	10	0	11	0	0	11	2
Fayoum	3	0	0	0	0	0	1	0	0	0	0	0	0	—	—
Minya (A)	1	0	0	0	0	0	10	3	3	0	4	0	0	16	0
Assyout (A)	0	0	0	0	0	0	1	1	3	0	3	0	0	24	0
Luxor (A)	0	0	0	0	0	0	0	0	12	0	3	0	0	25	0
Aswan (A)	0	0	0	0	0	0	0	0	0	0	0	à	0	23	0
Siwa	5	0	0	0	0	0	0	0	0	0	5	0	0	11	1
Bahariya	2	0	0	0	0	0	1	0	1	0	2	0	0	20	0
Farafra	3	0	0	0	0	0	1	0	0	0	0	0	0	—	—
Dakhla	1	0	0	0	0	0	0	0	0	0	6	0	0	30	0
Kharga	0	0	0	0	0	0	0	0	0	0	3	0	0	27	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0	0	0	0	0	0	0	0	1	0	12	1	1	15	0
Quseir	0	0	0	0	0	0	0	0	0	0	1	0	0	21	0

Table A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

JANUARY — 1969

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	All directions
Sallum	3	0	0	1–10	19	6	8	7	3	8	16	11	24	63	88	50	303
				11–27	5	0	0	0	0	0	3	43	83	152	123	26	435
				28–47	0	0	0	0	0	0	0	0	0	1	2	0	3
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**24**	**6**	**8**	**7**	**3**	**8**	**19**	**54**	**107**	**216**	**213**	**76**	**741**
Mersa Matruh (A)	4	0	0	1–10	1	10	2	2	11	13	30	23	37	42	13	4	188
				11–27	10	8	2	0	9	6	48	66	184	125	45	41	544
				28–47	0	0	0	0	0	0	0	1	3	1	0	3	8
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**11**	**18**	**4**	**2**	**20**	**19**	**78**	**90**	**224**	**168**	**58**	**48**	**740**
Alexandria (A)	1	0	0	1–10	13	19	14	11	39	33	43	118	51	47	25	32	445
				11–27	4	0	0	0	0	4	13	106	76	15	60	16	294
				28–47	0	0	0	0	0	0	0	4	0	0	0	0	4
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**17**	**19**	**14**	**11**	**39**	**37**	**56**	**228**	**127**	**62**	**85**	**48**	**743**
Port Said (A)	2	0	0	1–10	5	30	20	18	19	24	46	113	94	29	11	4	413
				11–27	0	0	0	2	1	3	63	135	74	36	11	1	326
				28–47	0	0	0	0	0	0	0	0	1	2	0	0	3
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**5**	**30**	**20**	**20**	**20**	**27**	**109**	**248**	**169**	**67**	**22**	**5**	**741**
Tanta	46	0	0	1–10	7	14	8	26	26	32	214	180	86	22	13	14	641
				11–27	0	0	0	0	0	0	16	32	0	8	0	0	56
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**7**	**14**	**8**	**26**	**26**	**32**	**230**	**212**	**86**	**30**	**13**	**14**	**697**
Cairo (A)	27	0	0	1–10	7	8	22	13	12	23	91	79	64	55	45	12	431
				11–27	0	5	2	0	3	3	76	121	42	26	8	0	286
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**7**	**13**	**24**	**13**	**15**	**26**	**167**	**200**	**106**	**81**	**53**	**12**	**717**
Fayoum	28	1	8	1–10	47	34	11	15	15	28	89	137	145	61	39	32	653
				11–27	0	0	0	0	0	0	3	12	32	0	6	1	54
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**47**	**34**	**11**	**15**	**15**	**28**	**92**	**149**	**177**	**61**	**45**	**33**	**707**
Minya (A)	72	15	0	1–10	109	23	1	0	1	79	121	43	59	48	36	69	590
				11–27	10	0	0	0	1	0	9	4	9	18	5	12	68
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**119**	**23**	**1**	**0**	**2**	**79**	**130**	**47**	**68**	**66**	**41**	**81**	**658**

Table A 5 (*contd*)—NUMBER IN HOURS OF OCCURRENCE OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

JANUARY -- 1969

Station	calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												All directions
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	
				1-10	17	7	19	24	38	20	24	12	20	179	139	74	573
				11-27	2	0	0	0	2	3	5	13	40	39	30	25	159
syout . . . . . (A)	5	0	7	28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**19**	**7**	**19**	**24**	**40**	**23**	**29**	**25**	**60**	**218**	**169**	**99**	**732**
				1-10	42	29	38	56	36	56	126	56	56	87	52	51	685
				11-27	0	0	0	0	0	0	0	9	12	15	20	0	56
uxor . . . . . (A)	2	0	1	28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**42**	**29**	**38**	**56**	**36**	**56**	**126**	**65**	**68**	**102**	**72**	**51**	**741**
				1-10	270	58	12	1	1	0	14	13	26	35	44	127	601
				11-27	45	6	0	0	0	0	3	2	5	20	17	34	132
swan . . . . . (A)	5	3	3	28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**315**	**64**	**12**	**1**	**1**	**0**	**17**	**15**	**31**	**55**	**61**	**161**	**733**
				1-10	7	8	17	56	48	25	33	22	79	149	92	21	557
				11-27	2	0	0	0	4	1	3	7	17	73	48	20	175
iwa	12	0	0	28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**9**	**8**	**17**	**56**	**52**	**26**	**36**	**29**	**96**	**222**	**140**	**41**	**732**
				1-10	18	26	49	40	45	17	43	33	69	124	125	60	649
				11-27	0	0	0	0	0	0	0	1	1	23	11	21	57
akhla	34	4	0	28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**18**	**26**	**49**	**40**	**45**	**17**	**43**	**34**	**70**	**147**	**136**	**81**	**706**
				1-10	96	51	15	18	22	32	24	23	39	55	92	105	572
				11-27	45	8	0	0	0	1	4	5	3	15	10	23	114
harga	20	5	33	28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**141**	**59**	**15**	**18**	**22**	**33**	**28**	**28**	**42**	**70**	**102**	**128**	**686**
				1-10	23	34	15	18	18	8	14	10	20	18	91	66	335
				11-27	74	4	0	0	1	6	1	1	0	0	120	175	382
urghada	7	0	16	28-47	2	0	0	0	0	0	0	0	0	0	0	2	4
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**99**	**38**	**15**	**18**	**19**	**14**	**15**	**11**	**20**	**18**	**211**	**243**	**721**
				1-10	38	36	27	16	11	5	6	19	49	229	115	16	567
				11-27	37	2	0	0	2	4	0	9	10	46	41	26	177
useir	0	0	0	28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**75**	**38**	**27**	**16**	**13**	**9**	**6**	**28**	**59**	**275**	**156**	**42**	**744**

Table B 2.– MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE. THE HIGHEST WIND SPEED IN THE UPPER AIR

JANUARY — 1969

	Station	Freezing Level									First Tropopause									Highest wind speed			
		Mean			Highest			Lowest			Mean			Highest			Lowest						
		Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Direction (000–360)	Speed in Knots
0000 U.T.		(N)	(N)	(N)							(N)	(N)	N)										
	Mersa Matruh (A)	2109 (26)	786 (26)	-7.7 (26)	3400	676	-11.9	1120	892	-3.1	10594 (16)	244 (16)	-56.8 (16)	12870	170	-64.0	7970	349	-46.7	12940	167	310	128
	Helwan	2113 (30)	787 (30)	-7.3 (30)	3570	660	-8.2	1100	892	-2.7	10087 (28)	254 (28)	-55.2 (28)	14480	134	-66.7	7091	400	-36.9	6780	419	250	150
	Aswan . . . . (A)	3451 (31)	670 (31)	-17.3 (31)	4230	609	-25.1	1880	808	-5.5	14918 (23)	138 (23)	-71.0 (23)	17430	84	-70.5	11340	215	-57.3	11965	204	255	195
1200 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	Mersa Matruh (A)	2148 (27)	782 (27)	-7.4 (25)	3440	670	-21.7	1220	880	-4.2	10611 (18)	243 (18)	-56.3 (18)	12830	173	-68.5	8100	342	-48.5	9105	306	235	150
	Helwan	2282 (30)	773 (30)	-8.7 (30)	3690	650	-18.1	1150	884	-1.5	10888 (27)	237 (27)	-55.6 (27)	13020	169	-62.7	8000	352	-39.0	7270	391	250	150
	Aswan . . . (A)	3552 (30)	663 (30)	-19.7 (30)	4450	594	-22.1	2000	795	-10.2	15592 (25)	122 (25)	-68.4 (25)	18250	74	-74.9	12220	204	-66.3	11920	205	245	200

Table B 3.—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

MERSA MATRUH (A)—JANUARY 1969

Time	Pressure Surface (Millibar.)	Wind between specified ranges of direction (000—360)°																						Number of Calm winds	Total Number of Observations (TN)	Mean Scalar wind Speed (Knots)
		345/014		015/044		045/074		075/104		105/134		135/164		165/194		195/224		225/254		255/284		285/314		315/344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	0	—	1	8	0	—	9	—	2	12	0	—	1	2	6	9	11	13	1	14	2	14	3	18	0	27	12
	1000	2	15	0	—	0	—	0	—	1	9	3	11	1	13	1	13	5	19	7	15	2	15	3	21	0	25	16
	850	1	15	0	—	0	—	0	—	1	7	0	—	1	4	1	14	7	25	5	25	5	23	6	22	0	27	28
	700	1	50	0	—	0	—	0	—	0	—	0	—	1	15	0	—	8	27	5	20	7	28	4	16	0	26	22
	600	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	32	5	34	7	25	7	28	3	31	0	26	30
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	30	0	—	10	39	8	31	3	35	0	25	38
	400	1	46	0	—	0	—	0	—	0	—	0	—	0	—	2	31	4	44	8	49	6	41	3	45	0	24	47
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	48	8	73	3	53	2	44	0	17	62
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	67	6	71	3	63	1	44	0	13	69
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	82	5	76	2	75	1	79	0	9	80
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	70	0	88	0	—	0	4	70
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	55	0	—	0	—	0	1	55
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	0	—	0	—	0	—	0	—	1	7	0	—	3	18	2	22	4	23	8	18	3	15	4	18	1	26	18
	1000	1	13	0	—	0	—	0	—	1	7	0	—	0	20	3	27	3	21	5	20	8	17	3	25	0	25	20
	850	0	—	1	11	0	—	0	—	0	—	0	—	1	9	2	22	4	18	7	20	7	25	5	24	0	27	21
	700	1	39	0	—	0	—	0	—	0	—	0	—	0	—	1	13	4	30	8	22	9	24	3	32	0	26	27
	600	2	30	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	45	8	23	7	28	3	40	0	25	31
	500	0	—	1	17	0	—	0	—	0	—	0	—	0	—	0	—	3	55	9	37	8	29	3	45	0	24	37
	400	1	53	1	24	0	—	0	—	0	—	0	—	0	—	0	—	3	67	8	53	4	46	6	34	0	23	47
	300	2	48	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	9	68	5	48	3	50	0	19	58
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	66	8	74	5	52	2	46	0	17	63
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	80	9	68	4	71	1	43	0	16	69
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	80	2	50	0	—	0	7	67
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	64	1	60	0	—	0	3	63
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	19	0	—	0	1	19
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	—	—	0	—	0	—	0	—	0	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

Table B 3.(*contd.*)—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

HELWAN—JANUARY 1969

Time	Pressure Surface (Millibar.)	Wind between specified ranges of direction (000—360)°																						Number of Calm winds	Total Number of Observations (T N)	Mean Scalar wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		315 / 344		285 / 314		255 / 284				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	3	6	0	—	3	8	2	5	9	5	1	2	2	7	3	7	0	—	3	7	1	4	0	—	3	30	5
	1000	0	..	2	10	3	5	0	—	2	4	1	8	0	—	1	8	0	—	3	9	1	4	0	—	0	13	7
	850	2	13	0	—	0	—	0	—	0	—	0	—	0	—	10	20	12	24	2	14	3	23	0	—	0	29	21
	700	0	—	0	—	0	—	0	—	0	—	0	—	1	24	3	28	8	27	9	31	3	17	2	38	0	26	28
	600	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	35	10	38	9	39	2	32	1	34	0	25	37
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	48	12	54	8	45	1	42	1	36	0	25	51
	400	1	15	0	—	0	—	0	—	0	—	0	—	0	—	3	71	7	67	8	79	1	81	0	—	0	20	73
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	80	3	44	3	90	0	—	0	9	71
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	136	0	—	0	—	0	—	0	1	136
	200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	150	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	0	—	0	—	0	—	0	—	0	—	0	—	3	13	10	9	8	8	3	8	4	11	1	4	1	30	9
	1000	0	—	0	—	0	—	0	—	0	—	1	2	1	16	4	7	3	5	0	—	4	16	1	4	0	14	10
	850	0	—	0	—	0	—	0	—	0	—	1	4	4	11	3	18	14	29	4	34	3	23	1	12	0	30	24
	700	1	25	1	24	0	—	0	—	0	—	0	—	0	—	6	33	10	41	5	27	5	30	0	—	0	28	33
	600	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	30	10	43	6	41	2	32	1	56	0	23	40
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	58	10	50	7	49	1	40	1	43	0	22	50
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	67	5	78	8	86	0	—	1	84	0	16	81
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	86	4	88	0	—	0	—	0	7	87
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	75	3	103	0	—	0	—	0	4	96
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	96	0	—	0	—	0	2	96
	150	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = Number of cases the element has been observed during the month,

THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SCLECTED PRESSURE SURFACES.

ASWAN (A) — JANUARY 1969

Time	Pressure Surface (Millibar.)	Wind between specified ranges of direction (000—360)°																								Number of Calm winde	Total Number of Observations (T N)	Mean Scalar wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		315 / 344		285 / 314		255 / 284				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	14	7	2	8	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	8	4	8	9	9	0	31	8
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	2	17	0	—	1	16	1	2	1	13	3	7	1	8	2	10	3	14	6	12	7	12	3	15	0	30	12
	700	1	14	0	—	0	—	0	—	0	—	0	—	1	17	3	14	6	25	12	31	5	17	2	24	0	30	24
	600	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	22	12	43	13	34	2	27	2	30	0	30	37
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	11	53	16	45	2	35	1	49	0	30	48
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	74	20	64	3	53	0	—	0	30	65
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	10	107	19	87	0	—	0	—	0	29	94
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	10	115	19	101	0	—	0	—	0	29	106
	200	0	—	0	—	0	—	0	—	—	—	0	—	0	—	1	92	11	113	16	116	0	—	0	—	0	28	114
	150	0	—	0	—	0	—	0	—	—	—	0	—	0	—	0	—	5	91	21	102	0	—	0	—	0	26	104
	100	0	—	0	—	0	—	0	—	—	—	0	—	0	—	0	—	6	65	13	71	0	—	0	—	0	19	69
	70	0	—	0	—	0	—	0	—	—	—	1	14	0	—	0	—	7	45	7	34	0	—	0	—	0	15	38
	60	0	—	0	—	0	—	0	—	1	10	0	—	0	—	1	28	4	43	6	46	1	59	0	—	0	13	42
	50	0	—	0	—	0	—	0	—	0	—	0	—	1	4	1	12	4	29	3	26	1	7	1	31	0	11	23
	40	0	—	0	—	0	—	0	—	2	34	2	14	0	—	0	—	3	40	2	24	1	30	0	—	0	10	29
	30	0	—	0	—	1	10	0	—	1	10	0	—	0	—	1	21	1	35	3	18	1	17	0	—	1	9	16
	20	0	—	0	—	1	11	1	8	0	—	0	—	1	9	0	—	1	13	1	27	0	—	1	14	0	6	14
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	14	9	4	9	0	—	0	—	1	1	1	3	0	—	1	14	2	16	2	14	2	14	2	8	1	30	10
	1000	1	16	1	10	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	13
	850	1	8	2	15	2	11	2	6	1	3	1	7	1	8	1	10	2	12	9	13	4	15	4	15	0	30	12
	700	1	22	1	14	0	—	0	—	0	—	0	—	2	9	1	11	10	30	8	29	5	19	2	16	0	30	23
	600	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	21	10	41	13	34	2	28	3	27	0	30	36
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	14	11	62	17	45	0	—	1	32	0	30	50
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	20	10	68	15	64	3	43	0	—	0	29	62
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	13	98	14	85	2	44	0	—	0	29	89
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	10	129	18	91	1	59	0	—	0	29	103
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	9	129	19	104	0	—	0	—	0	28	114
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	112	17	104	0	—	0	—	0	24	107
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	84	18	65	0	—	0	—	0	21	68
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	43	8	41	0	—	1	23	0	14	41
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	28	9	26	1	22	0	—	0	13	26
	50	0	—	0	—	1	15	1	12	0	—	0	—	0	—	1	23	3	25	1	13	2	30	0	—	0	9	22
	40	1	37	0	—	0	—	1	10	0	—	1	7	0	—	1	31	1	38	0	—	0	—	0	—	1	6	20
	30	0	—	0	—	0	—	2	10	1	20	0	—	0	—	1	26	0	—	1	30	0	—	1	15	0	6	18
	20	0	—	0	—	0	—	1	8	0	—	0	—	0	—	0	—	0	—	2	26	0	—	0	—	0	3	20
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

REVIEW OF AGRO-METEOROLOGICAL STATIONS

EL KASR — JANUARY 1969

This month was slightly cooler and appreciably more rainy than normal. The total monthly rainfall was 98.6 mms. against 24.6mms. for normal. The month was characterized by three cold waves during the periods (4th — 10th), (12th — 13th) and (18th — 31st). The third cold wave was markedly long and intense, yielding the lowest maximum air temperature for the month (12.1°C) on the 28th and the maximum daily rainfall (21.9 mms) on the 21st. Three short warm spells occurred during the first two days, on the 11th, and during the period (16th — 17th). The last warm spell yielded the highest maximum air temperature for the month (23.3°C) on the 16th.

The extreme maximum soil temperatures were lower than the corresponding values of last January at all depths between 2 and 100 cms. and the differences ranged between 0.2°C at both 5 and 10 cms. depths and 1.2°C at 50 cms. depth. The extreme minimum soil temperatures were lower than the corresponding values of last January at all depths apart from the 10 cms. depth where the value was slightly higher (0.2°C), the differences ranged between 0.3°C at 5 cms. and 1.1°C at 100 cms. depth.

The daily mean Pan evaporation was 1.77 mms. less than the corresponding value of January 1968. The total actual duration of bright sunshine was 5.3 hours more than the corresponding value of January 1968.

TAHRIR — JANUARY 1969

Compared with last January, this month had nearly the same mean daily air temperature but was more rainy. The total monthly rainfall was 13.7 mms. against 5.6 mms. for last January. The month was characterized by three pronounced cold waves during the periods (2nd — 8th), (12th — 14th) and (18th — 31st). The third cold wave was markedly long and yielded the lowest maximum air temperature for the month (11.8°C) on the 28th. The second cold wave was the shortest, but it was associated with the maximum daily rainfall (7.4 mms.) on the 12th. Three short warm spells occurred on the 1st, 11th and (16th — 17th) respectively.

The extreme maximum soil temperature at 2 cms. depth was the same as Last January. At all other depths between 5 and 100 cms. the values were higher than last January with differences ranging between 1.2°C at 5 cms. and 0.1°C at both 20 and 50 cms. The extreme minimum soil temperatures were lower than last January at all depths apart from 10 and 100 cms. depths where the values were slightly higher (0.2°C), the differences ranged between 1.1°C at 2 cms. 0.2°C at 20cms.

The daily mean Pan evaporation was 1.0 mms. less than the corresponding value of January 1968. The total actual duration of bright sunshine was 37.1 hours less than the coresponding value of January 1968.

BAHTIM — JANUARY 1969

Compared with last January, this month was slightly warmer and more rainy. The total monthly rainfall was 13.5 mms. against 5.5 mms for last January . The daily maximum air temperatures were below normal during all the month except on the 17th when a warm spell occurred yielding the highest maximum air temperature for the

month (24.5°C). The month was characterized by three pronounced cold waves during the periods (4th-8th), (12th-15th) and (18th-31st). The third cold wave was markedly long and yielded the lowest maximum air temperature for the month (12.2°C) on the 28th. The minimum air temperature at 5 cms above ground fell below 0°C on the 15th only when its value reached -0.5°C.

The extreme maximum soil temperatures were lower than the corresponding values of last January at shallow depths between 2 and 10cms and the differences ranged between 5.0°C at 2 cms and 0.4°C at 5 cms. A deeper depths between 20 and 100 cms. the values were slightly higher with differences ranging between 0.2°C at 20 cms. and 0.6°C at 100 cms. The extreme minimum soil temperatures were slightly higher than last January at 2 cms. depth and at depths between 50 and 100 cms. with differences ranging between 0.2°C and 0.5°C. At depths between 5 and 20 cms the values were lower than last January with differences ranging between 0.2°C and 0.9°C.

The daily mean Pan evaporation was 1.04 mm. less than the corresponding value of January 1968. The total actual duration of bright sunshine was 44.1 hours less than the corresponding value of January 1968.

KHARGA — JANUARY 1969

This month was slightly cooler than normal and almost rainless. The month was characterized by four cold waves during the periods (4th - 10th), (14th-15th), (19th-20th) and (22nd-31st). The last cold wave was markedly long and yielded the lowest maximum air temperature for the month (15.8°C) on the 29th. Four short warm spells occurred on the 2nd., 12th, 17th and 21st. The minimum air temperature at 5 cms above ground fell below 0°C on 9 days. The values of the minimum temperatures on these days are given in the following table :

Minimum air temperatures :	-0.4	-0.8	-0.5	-1.6	-0.4	-0.1	-0.2	-0.8	-0.3
Date :	6	7	10	11	16	16	17	25	26

The extreme maximum soil temperatures were lower than the corresponding values of last January at all depths between 2 and 100 cms and the differences ranged between 2.2°C at 10 cms. and 0.2°C at 100 cms. The extreme minimum soil temperatures were higher than the corresponding values of last January at shallow depths between 2 and 20 cms. with differences ranging between 1.3°C at 2 cms. and 0.6°C at 20 cms. At deeper depths between 50 and 100 cms the values were slightly lower than last January with differences ranging between 0.5°C and 0.1°C.

The daily mean Pan evaporation was 1.14 mm. less than the corresponding value of January 1968. The total actual duration of bright sunshine was 4.3 hours more than the corresponding value of January 1968.

Table C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

JANUARY — 1969

STATION	Air Temperature (°C)					Mean Duration in hours of daily air temperature above the following values										
	Mean Max.	Mean Min.	Mean of the day	Night time mean	Day time mean	—5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45
El Kasr	17.0	8.0	12.0	10.3	13.9	24.0	24.0	24.0	16.1	3.9	0.5	0.0	0.0	0.0	0.0	0
Tahrir	18.1	7.3	11.9	9.9	14.0	24.0	24.0	23.6	16.0	5.6	0.4	0.0	0.0	0.0	0.0	0
Bahtim	17.8	6.0	11.4	9.1	13.7	24.0	24.0	23.1	14.3	4.5	0.3	0.0	0.0	0.0	0.0	0
Kharga	20.7	3.3	12.1	8.8	15.5	24.0	24.0	20.8	14.1	7.8	1.7	0.0	0.0	0.0	0.0	0

Table C 2.— ABSOLUTE VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS.

JANUARY — 1969

STATION	Max. Temp. at 1½ metres (°C)				Min. Temp. at 1½ metres (°C)				Min. Temp. at 5 cms. above (°			
	Highest		Lowest		Highest		Lowest		Dry soil		Grass	
	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Da
El Kasr	23.3	16	12.1	28	12.2	12	4.8	5	3.0	10	—	—
Tahrir	24.6	17	11.8	28	12.4	12	3.2	6	1.6	10	—	—
Bahtim	24.5	17	12.2	28	11.1	21	1.3	10	-0.5	15	—	—
Kharga	25.2	17	15.8	29	8.3	21	0.4	10	-1.6	10	—	—

Table C 3.—(SOLAR + SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL

JANUARY — 1969

STATION	(Solar + Sky) Radiation gm. cal./cm²	Duration of Bright Sunshine (hours)			Relative Humidity				Vapour pressure (mms)						Evaporation (mms)		Rainfall (mms)		
		Total Actual monthly	Total Possible monthly	%	Mean of day	1200 G.M.T.	Lowest	Date	Mean of day	1200 G.M.T.	Highest	Date	Lowest	Date	Piche	Pan class A	Total Amount Monthly	Max. Fall in one day	Date
El Kasr .	215.6	190.7	320.8	59	74	60	32	5	7.8	8.1	11.5	12	4.6	5	4.8	3.83	98.6	21.9	2
Tahrir . .	292.0	181.2	325.2	56	69	51	25	17	7.2	7.2	11.9	2	1.1	6	4.6	3.53	13.7	7.4	1
Bahtim .	282.5	172.9	324.6	53	69	51	30	6	6.9	7.2	11.5	1	3.5	6	4.1	3.16	13.5	6.2	1
Kharga .	323.6	298.9	334.6	89	48	33	16	17	4.9	5.5	8.9	13	3.1	9	7.3	5.58	Tr.	Tr.	18

Table C 4.—EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS IN DIFFERENT FIELDS (cms)

JANUARY—1969

STATION	Highest (H) Lowest (L)	Extreme soil temperature (°C) in dry field at different depths (cms.)								Extreme soil temperature (°C) in grass field at different depths (cms.)							
		2	5	10	20	50	100	200	300	2	5	10	20	50	100	200	300
El Kasr	H	20.6	18.2	16.7	14.4	14.5	17.0	23.4	—	—	—	—	—	—	—	—	—
	L	4.9	6.0	7.4	9.4	11.8	15.2	23.0	—								
Sahrir	H	26.5	24.4	20.6	17.9	17.3	18.7	21.5	23.2	—	—	—	—	—	—	—	—
	L	3.3	5.0	7.6	10.6	13.1	16.2	19.4	21.6	—	—	—	—	—	—	—	—
Bahtim	H	25.9	21.6	19.2	18.6	19.9	21.7	24.2	25.1	—	—	—	—	—	—	—	—
	L	4.3	6.5	10.3	14.0	17.2	19.6	22.5	24.1	—	—	—	—	—	—	—	—
Kharga	H	28.8	24.2	20.5	19.2	20.8	23.6	27 2	28.6	—	—	—	—	—	—	—	—
	L	4.1	6.7	11.1	15.2	18.7	21.9	25.6	27.6	—	—	—	—	—	—	—	—

Table C 5.—SURFACE WIND

JANUARY—1969

STATION	Wind Speed m/sec at 1½ metres			Days with surface wind speed at 10 metres							Max. Gust (knots) at 10 metres	
	Mean of the day	Night time mean	Day time mean	≥10 knots	≥15 knots	≥20 konts	≥25 knots	≥30 knots	≥35 knots	≥40 knots	value	Date
El Kasr . . .	2.7	2.6	2.9	—	—	—	—	—	—	—	—	—
Sahrir	2.7	2.1	3.3	28	18	9	3	0	0	0	39	21
Bahtim	2.7	2.1	3.4	27	17	8	3	0	0	0	35	20.21
Kharga . . .	2.3	1.5	3.1	25	14	4	1	0	0	0	34	23

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METEOROLOGICAL DEPARTMENT
CAIRO

PUBLICATIONS OF THE METEOROLOGICAL DEPARTMENT OF THE UNITED ARAB REPUBLIC—CAIRO

In fulfilment of its duties as the National Meteorological service for the U.A.R., the Meteorological Department issues several reports and publications on weather, climate and agrometeorology. The principal publications are described on this page.

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This report is printed daily in the Meteorological Department. It contains surface and upper air observations carried by the relevant networks of the Republic and made at the four main synoptic hours of observations (00, 06, 12 and 18 U.T.); as well as ship observations over the Eastern Mediterranean and north Red Sea made at the same times.

It also contains two surface synoptic charts at 00 and 12 U.T. and two upper air charts for the standard isobaric surfaces 700 & 500 mbs. at both 00 and 12 U.T. In compliance with resolution 8 (EC-XIII) of WMO, foreign upper air data included in Cairo Subregional Broadcast are also given in this report.

As from January 1968, the daily weather report contents are pressed into a rather less but representative selection of synoptic weather observations and charts.

THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for U.A.R.

THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

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UNITED ARAB REP UPLIC

MONTHLY WEATHER REPORT

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METEOROLOGICAL DEPARTMENT
CAIRO

CONTENTS

GENERAL SUMMARY OF WEATHER CONDITIONS

FEBRUARY 1969

Much changeable, generally mild in the north and warm in the south. Deficient rain.

GENERAL DESCRIPTION OF WEATHER

Weather during this month was much changeable in temperature. The month was characterized by four pronounced warm spells round the periods : (2-6), (10-11), (14-17) & (22-28). The third and fourth warm spells were the most pronounced. During the rest periods of the month, weather was rather cold in the northern parts, and mild in the middle and southern parts.

Light rain fell over the Mediterranean district during the period (7th-9th) and round the 22nd. It extended southwards to few scattered places on the 22nd only.

Rising sand blew over scattered places by the passage of cold fronts round the 7th, 12th, 17th & 26th. Early morning mist and fog developed during several days over scattered places in Delta, Canal, Cairo Areas and in the north parts of Upper Egypt district.

PRESSURE DISTRIBUTION

The most important pressure systems over the synoptic surface maps during this month were :

— The Siberian anticyclone and its southwest extension to East Mediterranean.

— The subtropical high pressure belt over the Atlantic and North Africa.

— Deep low pressure systems through North Urasia.

— Secondary depressions through the Mediterranean and its vicinities.

During this month, five secondary Mediterranean depressions were distinguished, four of which passed through East Mediterranean.

The first depression originated south of Tunisia on the 2nd, and moved northeastwards reaching Italy on the 4th, then it took an eastward track and passed through East Mediterranean on the 7th.

The second depression developed over Italy on the 8th and moved eastawrds traversing Asia Minor and East Mediterranean on the 12th.

The third depression originated on the 14th over the gulf of Genewa, and was associated with a secondary depression near the gulf of Serte. This system proceeded eastwards and passed through Asia Minor and East Mediterranean on the 17th.

The fourth depression appeared over the gulf of Genewa on the 20th and proceeded eatwards while filling, reaching Asia Minor on the 23rd where it filled up on the 24th. Meanwhile a depression appeared over Italy and was associated with a secondary near the gulf of Cyranica. This system proceeded eastwards and passed through Asia Minor and north of U.A.R. on the 26th.

After the passage of the above mentioned depressions through East Mediterranean, subtropical high pressure belt extended over NE Africa and East Mediterranean, and amalgamated with the extension of the Siberian anticyclonic SW ridge.

The transits of the above mentioned four depressions through East Mediterranean, and the subsequent formation of high pressure, caused four pronounced oscillations in the barometric pressure over U.A.R. with maxima round the 2nd, 9nd, 13th, 20th and minima round the 7th, 12th, 17th, 26th.

The outstanding pressure systems over the synoptic upper air charts were:

— Two deep upper lows over North Russia and North Atlantic.

— Secondary upper troughs or lows through the middle latitudes, passing through East Mediterranean and north of U.A.R. on the 8th, 13th, 19th, 23rd and 28th.

SURFACE WIND

The prevailing winds most days of this month were generally light to moderate and blew from directions between NE & NW. Winds became fresh to strong in association with the transits of Mediterranean troughs through East Mediterranean and changed to SWly mainly in north of the Republic. On the other hand, calms were frequent most of night and early morning interavals in scattered land localities.

Gales were reported at Sidi Barrani on the 11th.

TEMPERATURE

Maximum air temperature showed larg variability during this month. Its value ranged generally between 18°C, 25°C in th northern parts, between 20°C, 30°C in th middle parts, and between 25°C, 33°C in th southern parts.

The absolute maximum air temperatur for the month was 39.0°C recorded at Dakhl on the 26th.

Minimum air temperature fluctuation were rather analogous to maximum tempe rature fluctuations.

Minimum air temperature values range generally between 7°C, 15°C in the norther and southern parts, and between 3°C, 13° in the middle parts.

The absolute minimum air temperature f the month was — 1.2 °C recorded at Faraf on the 2nd.

PRECIPITATION

This month was characterized by pronounce dryness and the monthly rainfall was rema kably below normal in general.

Light rain was confined to the Mediterra ean district during the period (7th - 9th) ar round the 22nd, during which it extended few land localities.

The highest daily rainfall was 4.0 mms. Damietta on the 7th and at Fayoum on th 22nd.

The highest monthly rainfall was 4.3 mm at Balteam .

M. F. TAHA
Under Secretary of State
Director General
Meteorological Department

Cairo, 22 / 2 / 1971

Table A 1. — MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION.

FEBRUARY — 1969

TATiON	Atmospheric Pressure (mbs) M.S.L.		Air Temperature °C										Relative Humidity %		Bright Sunshine Duration (Hours)			Piche Evaporation (mms) Mean
			Maximum		Minimum		$\frac{A+B}{2}$	Dry Bulb		Wet Bulb								
	Mean	D.F. Normal or Average	(A) Mean	D.F. Normal or Average	(B) Mean	D.F. Normal or Average		Mean	D.F. Normal or Average	Mean	D.F. Normal or Average		Mean	D.F. Normal or Average	Total Actual	Total Possible	%	
Sallum	1015.8	— 1.5	21.2	+ 1.5	11.6	+ 1.9	16.4	15.7	+ 1.1	11.1	+ 0.6		54	0	—	—	—	7.5
Mersa Matruh (A)	1016.3	— 0.8	20.0	+ 1.2	9.6	+ 1.2	14.8	14.4	+ 1.0	11.7	+ 0.9		71	+ 8	—	—	—	6.2
Alexandria . . (A)	1016.8	— 0.4	20.6	+ 1.4	10 0	+ 0.5	15.3	14.8	+ 0.6	11.8	+ 0.6		68	0	219.6	310.5	71	4.6
Port Said . . (A)	1016.4	— 0.5	19.6	+ 1.0	12.8	+ 0.8	16 2	15.7	+ 0.9	12.9	+ 0.9		70	+ 1	225.1	310.5	72	5.4
El Arish	—	—	—	—	—	—	—	—	—	—	—		—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—		—	—	—	—	—	—
Tanta	1016.8	— 0.5	22.4	+ 1.5	8.5	+ 1.9	15.4	14.6	+ 1.8	11.4	+ 1.5		65	— 1	213.8	310.9	69	3.7
Cairo . . . . (A)	1016.5	— 0.9	21.2	+ 0.6	10.1	+ 0 7	15.6	17.2	+ 2.4	11.6	+ 1.1		46	— 9	—	—	—	12.5
Fayoum	—	—	25.6	+ 3.6	8.8	+ 1.4	17.2	16.7	+ 2.4	12.1	+ 2.3		55	+ 3	—	—	—	4.5
Minya . . . (A)	1016.2	— 1.5	25.2	+ 2.8	6.8	+ 1.6	16.0	15.4	+ 2.1	10.6	+ 1.7		51	+ 2	269.3	312.1	86	6.6
Assyout . . . (A)	1016.0	— 1.2	26.5	+ 3.9	9.4	+ 1.9	18.0	17 4	+ 2.3	11.0	+ 1.8		40	— 1	—	—	—	12.9
Luxor . . . . (A)	1015.8	— 0.3	29.5	+ 4.3	8.8	+ 2.1	19.2	18 6	+ 2.7	11.8	+ 1.8		39	— 3	—	—	—	7.0
Aswan . . . . (A)	1014.7	— 0.9	29.8	+ 4.0	12.1	+ 2.9	21.4	20.5	+ 3.0	10.9	+ 1.9		22	— 2	—	—	—	16.5
Siwa	1015.2	— 2.5	25.1	+ 3.4	8.1	+ 2.4	16.6	16.3	+ 2.4	9.6	+ 1.0		36	— 8	—	—	—	9.8
Bahariya	1016.4	— 0 7	26.1	+ 3.9	9.1	+ 2.8	17.6	17.3	+ 3.6	10.6	+ 2.2		38	— 6	—	—	—	8.8
Farafra	—	—	26.5	+ 4.1	6.9	+ 1.5	16.8	—	—	—	—		—	—	—	—	—	12.4
Dakhla	1017.1	— 0.9	28·5	+ 4.8	6.8	+ 1.1	17.6	17.3	+ 3.7	9.6	+ 2.4		29	— 3	—	—	—	10.9
Kharga	1015.8	— 1.2	28.3	+ 3.7	9.1	+ 2.0	18.6	18.8	+ 3.6	9.8	+ 1.1		28	—10	290.8	316.9	92	13.1
Tor	—	—	—	—	—	—	—	—	—	—	—		—	—	—	—	—	—
Hurghada	1015.3	— 0.3	23.1	+ 1.9	11.2	+ 1.3	17.2	17.7	+ 1.2	13.2	+ 2.0		57	+ 9	—	—	—	11.3
Quseir	1015.8	+ 0.1	23.4	+ 0.4	14.8	+ 0.5	19.1	19.3	+ 1.0	14.3	+ 1.9		55	+10	—	—	—	12.7

Table A2. — MAXIMUM AND MINIMUM AIR TEMPERATURES

FEBRUARY — 1969

Station	Maximum Temperature °C									Grass Min. Temp.		Minimum Temperature °C							
	Highest	Date	Lowest	Date	No. of Days with Max-Temp.					Mean	D. From Normal	Highest	Date	Lowest	Date	No. of Days with Min. Temp.			
					>25	>30	>35	>40	>45							<10	<5	<0	<-5
Sallum	32.4	15	16.2	7	5	2	0	0	0	11.4	—	19.1	15	6.9	2	7	0	0	0
Mersa Matruh (A)	31.8	15	16.4	12	1	1	0	0	0	—	—	14.2	16	5.2	1	16	0	0	0
Alexandria (A)	29.3	15	17.2	7	2	0	0	0	0	8.2	—	14.5	16,17	5.0	1	12	0	0	0
Port Said (A)	27.7	26	17.0	14	2	0	0	0	0	12.2	—	15.8	26	9.6	8	1	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	31.0	25	19.0	14	6	1	0	0	0	—	—	13.5	16,27	3.6	11	18	5	0	0
Cairo (A)	32.4	26	17.8	1	8	4	0	0	0	—	—	16.7	26	6.2	5	12	0	0	0
Fayoum	33.3	26	20.3	8	14	5	0	0	0	6.0	—	14.5	26	3.8	3	18	5	0	0
Minya (A)	33.5	26	19.6	8	13	5	0	0	0	4.8	—	14.2	17	1.2	4	19	10	0	0
Assyout (A)	37.3	26	18.3	8	16	8	3	0	0	7.1	—	17.8	25	4.4	2	18	1	0	0
Luxor (A)	36.4	27,28	22.4	8	25	12	3	0	0	5.6	—	13.8	27	2.4	1	16	5	0	0
Aswan (A)	37.4	28	21.5	8	24	14	5	0	0	—	—	19.2	28	6.0	1	7	0	0	0
Siwa	34.6	25	17.9	8	16	5	0	0	0	7.6	—	17.7	22	−0.1	1	18	9	1	0
Bahariya	36.3	26	18.7	8	14	6	1	0	0	7.2	—	20.5	6	2.0	1	16	3	0	0
Farafra	37.2	26	18.4	1	15	8	2	0	0	9.4	—	16.6	17	−1.2	2	20	13	1	0
Dakhla	39.0	26	19.2	8	18	10	5	0	0	—	—	13.6	18	0.6	2,3	20	12	0	0
Kharga	36.6	27	19.8	8	18	10	4	0	0	7.1	—	16.2	28	3.0	2	17	2	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	27.7	27	19.8	8	4	0	0	0	0	—	—	16.6	27	7.5	12	11	0	0	0
Quseir	28.4	27	20.6	1	6	0	0	0	0	12.7	—	18.4	28	12.5	1	0	0	0	0

Table A 3.—SKY COVER AND RAINFALL

FEBRUARY — 1969

Station	Mean Sky Cover Oct.					Rainfall mms.										
	00 U.T.	06 U.T.	12 U.T.	18 U.T.	Daily Mean	Total Amount	D. From Normal	Max. Fall in one day		Number of Days with Amount of Rain						
								Amount	Date	<0.1	≥0.1	≥1.0	≥5.0	≥10	≥25	≥50
Sallum (A)	4.8	4.1	4.2	3.9	4.2	0.4	—11.1	0.2	21,26	0	2	0	0	0	0	0
Mersa Matruh (A)	3.4	2.4	4.1	4.2	2.8	2.8	—14.9	2.4	7	0	2	1	0	0	0	0
Alexandria (A)	3.5	4.8	5.1	3.4	4.0	1.4	—29.9	1.0	7	0	2	1	0	0	0	0
Port Said (A)	—	2.4	3.2	—	—	1.0	—11.0	0.9	7	0	2	0	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1.5	2.7	4.1	1.6	2.3	0.1	— 7.8	0.1	7	0	1	0	0	0	0	0
Cairo (A)	2.0	3.9	4.1	2.0	3.0	0.4	— 4.3	0.4	22	1	1	0	0	0	0	0
Fayoum	—	2.5	3.3	2.9	—	4.0	+ 2.6	4.0	22	0	1	1	0	0	0	0
Minya (A)	0.8	2.0	1.8	2.2	1.7	2.4	+ 1.2	2.4	22	0	1	1	0	0	0	0
Assyout (A)	0.3	0.6	1.0	0.7	0.7	0.0	— 0.3	0.0	—	0	0	0	0	0	0	0
Luxor (A)	0.6	1.4	1.0	1.4	1.1	tr.	— 0.2	tr.	23	1	0	0	0	0	0	0
Aswan (A)	0.9	0.9	1.1	0.8	0.9	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Siwa	1.5	2.0	3.0	1.7	2.1	0.8	— 1.7	0.8	22	0	1	0	0	0	0	0
Bahariya	1.4	1.8	2.0	2.0	1.7	1.8	+ 0.6	1.8	22	0	1	1	0	0	0	0
Farafra	—	0.8	1.6	1.0	—	0.0	— tr.	0.0	—	0	0	0	0	0	0	0
Dakhla	0.0	0.1	0.3	0.2	0.2	0.0	— 0.3	0.0	—	0	0	0	0	0	0	0
Kharga	0.3	0.9	0.9	0.8	0.7	0.0	— 0.3	0.0	—	0	0	0	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	1.2	2.0	1.7	1.4	1.6	0.0	— tr.	0.0	—	0	0	0	0	0	0	0
Quseir	0.5	1.5	1.5	0.9	1.0	tr.	+ tr.	tr.	23	1	0	0	0	0	0	0

Table A 4. — DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA.

FEBRUARY — 1969

Station	Precipitation				Frost	Thunderstorm	Mist Vis ≥1000 metres	Fog Vis <1000 Metres	Haze Vis ≥1000 Metres	Thick Haze Vis <1000 Metres	Dust or Sandrising Vis ≥1000 Metres	Dust or Sandstorm Vis <1000 Metres	Gale	Clear Sky	Cloudy Sky
	Rain	Snow	Ice. Pellets	Hail											
Sallum (A)	2	0	0	0	0	0	0	0	0	0	4	0	0	2	3
Mersa Matruh (A)	2	0	0	0	0	0	2	0	1	0	6	2	0	7	5
Alexandria (A)	2	0	0	0	0	0	3	5	2	0	3	1	0	3	1
Port Said (A)	2	0	0	0	0	0	0	0	0	0	1	1	0	—	—
Al Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1	0	0	0	0	0	5	0	0	0	0	0	0	14	0
Cairo (A)	1	0	0	0	0	0	4	1	11	0	7	3	0	7	0
Fayoum	1	0	0	0	0	0	3	1	0	0	0	0	0	—	—
Minya (A)	1	0	0	0	0	0	4	1	3	0	1	0	0	19	0
Assyout (A)	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0
Luxor (A)	0	0	0	0	0	0	0	0	2	0	0	0	0	22	0
Aswan (A)	0	0	0	0	0	0	0	0	0	0	0	0	0	26	1
Siwa	1	0	0	0	0	0	0	0	1	0	3	0	0	16	1
Bahariya	1	0	0	0	0	0	0	0	0	0	0	0	0	18	0
Farafra	0	0	0	0	0	0	0	0	3	0	0	0	0	—	—
Dakhla	0	0	0	0	0	0	0	0	2	0	5	0	0	27	0
Kharga	0	0	0	0	0	0	0	0	1	0	7	0	0	25	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0	0	0	0	0	0	1	0	0	0	11	0	0	18	0
Quseir	0	0	0	0	0	0	0	0	0	0	1	0	0	23	0

Table A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

FEBRUARY — 1969

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	All directions
Sallum	5	2	8	1–10	35	26	48	66	47	11	24	28	34	55	43	50	467
				11–27	18	0	7	0	0	0	6	22	43	34	38	21	189
				28–47	0	0	0	0	0	0	0	0	0	1	0	0	1
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**53**	**26**	**55**	**66**	**47**	**11**	**30**	**50**	**77**	**90**	**81**	**71**	**657**
Mersa Matruh (A)	12	0	1	1–10	20	13	10	30	41	51	30	25	20	27	17	21	305
				11–27	1	2	4	27	45	27	17	39	32	34	47	53	328
				28–47	0	0	0	0	0	0	11	9	0	6	0	0	26
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**21**	**15**	**14**	**57**	**86**	**78**	**58**	**73**	**52**	**67**	**64**	**74**	**659**
Alexandria (A)	0	2	190	1–10	13	58	53	44	35	22	17	25	5	22	49	46	389
				11–27	0	19	6	3	3	5	1	2	9	21	11	11	91
				28–47	0	0	0	0	0	0	0	4	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**13**	**77**	**59**	**47**	**38**	**27**	**18**	**27**	**14**	**43**	**60**	**57**	**480**
Port Said (A)	9	0	2	1–10	35	81	46	20	22	16	9	13	40	15	27	61	385
				11–27	0	15	40	35	15	10	32	19	37	25	33	12	273
				28–47	0	0	0	0	0	0	0	0	3	0	0	0	3
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**35**	**96**	**86**	**55**	**37**	**26**	**41**	**32**	**80**	**40**	**60**	**73**	**661**
Tanta	57	0	0	1–10	50	95	45	56	19	28	52	56	47	49	55	50	602
				11–27	2	0	0	2	0	0	1	6	2	0	0	0	13
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**52**	**95**	**45**	**58**	**19**	**28**	**53**	**62**	**49**	**49**	**55**	**50**	**615**
Cairo (A)	56	0	2	1–10	43	55	54	73	35	16	21	15	18	17	34	44	425
				11–27	4	12	22	17	0	5	49	30	15	17	9	2	182
				28–47	0	0	0	0	0	0	7	0	0	0	0	0	7
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**47**	**67**	**76**	**90**	**35**	**21**	**77**	**45**	**33**	**34**	**43**	**46**	**614**
Fayoum	23	1	0	1–10	158	152	32	22	16	45	49	42	48	21	24	25	634
				11–27	1	2	0	0	0	0	2	7	2	0	6	0	14
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**159**	**154**	**32**	**22**	**16**	**45**	**51**	**49**	**50**	**21**	**24**	**25**	**648**
Minya (A)	35	6	3	1–10	217	20	4	1	2	103	54	16	11	4	27	93	552
				11–27	55	0	0	0	0	1	13	0	2	0	2	3	76
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0		0
				All speeds	**272**	**20**	**4**	**1**	**2**	**104**	**67**	**16**	**13**	**4**	**29**	**96**	**628**

Table A 5 (*contd*)—NUMBER IN HOURS OF OCCURRENCE OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

FEBRUARY — 1969

Station	calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												All directions
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	
				1-10	19	7	19	32	34	21	21	3	7	151	110	73	497
				11-27	15	0	0	1	5	10	31	10	4	4	30	38	158
. . . . . (A)	13	1	13	28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**34**	**7**	**19**	**33**	**39**	**31**	**52**	**13**	**11**	**155**	**140**	**111**	**645**
				1-10	48	41	42	58	19	35	95	18	62	86	65	86	655
				11-27	0	0	0	0	0	0	0	1	0	0	7	3	11
Luxor . . . . . (A)	6	0	0	28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**48**	**41**	**42**	**58**	**19**	**35**	**95**	**19**	**62**	**86**	**72**	**89**	**666**
				1-10	222	43	7	9	14	5	23	6	5	11	14	42	501
				11-27	38	7	0	0	3	0	2	0	0	0	1	117	168
Aswan . . . . . (A)	0	3	0	28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**260**	**50**	**7**	**9**	**17**	**5**	**25**	**6**	**5**	**11**	**15**	**259**	**669**
				1-10	12	22	19	74	120	63	47	32	38	56	32	21	536
				11-27	3	3	0	0	22	11	11	6	9	11	15	22	113
Siwa	14	9	0	28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**15**	**25**	**19**	**74**	**142**	**74**	**58**	**38**	**47**	**67**	**47**	**43**	**649**
				1-10	21	39	32	58	40	36	90	23	32	56	77	95	599
				11-27	11	3	1	0	0	0	0	1	1	2	1	29	49
Dakhla	21	2	1	28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**32**	**42**	**33**	**58**	**40**	**36**	**90**	**24**	**33**	**58**	**78**	**124**	**648**
				1-10	87	55	25	8	20	14	18	22	19	31	34	113	466
				11-27	127	10	0	0	0	0	8	2	0	0	0	50	197
Kharga	6	3	0	28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**214**	**65**	**25**	**8**	**20**	**14**	**46**	**24**	**19**	**31**	**34**	**163**	**663**
				1-10	10	19	9	8	27	26	19	10	4	13	37	78	260
				11-27	118	19	0	0	24	22	8	0	0	0	28	112	331
Hurghada	20	2	23	28-47	12	0	0	0	0	0	0	0	0	0	0	24	36
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**140**	**38**	**9**	**8**	**51**	**48**	**27**	**10**	**4**	**13**	**65**	**214**	**627**
				1-10	37	25	9	11	45	30	31	18	20	107	91	36	460
				11-27	90	0	0	0	1	0	0	0	0	2	21	87	201
Quseir	4	0	2	28-47	2	0	0	0	0	0	0	0	0	0	0	3	5
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**129**	**25**	**9**	**11**	**46**	**30**	**31**	**18**	**20**	**109**	**112**	**126**	**666**

Table B 1. UPPER AIR CLIMATOLOGICAL DATA

FEBRUARY 1969

Station	Pressure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh 0000 U.T.	Surface	27	*1013m.b.	*1022m.b.	*1000m.b.	27	12.4	20.4	6.8	27	9.0
	1000	27	135	209	28	27	13.5	21.3	9.3	27	8.5
	850	27	1497	1593	1430	27	8.5	20.0	—2.2	27	— 3.2
	700	26	3077	3135	3024	24	0.8	5.6	— 8.6	24	—11.3
	600	26	4297	4363	4195	25	— 7.0	— 4.5	—11.7	25	—16.8
	500	25	5690	5774	5614	25	—17.2	—14.1	—20.9	24	—25.9
	400	23	7325	7433	7227	23	—29.1	—26.1	—34.0	23	—38.6
	300	22	9365	9449	9199	22	—45.2	—39.9	—49.2	19	—53.4
	250	20	10515	10655	10445	20	—54.4	—46.3	—59.0	16	—62.2
	200	19	11920	12072	11820	19	—60.8	—51.0	—67.6	4	—64.0
	150	14	13713	13838	13619	14	—59.7	—55.7	—62.9	—	—
	100	9	16209	16332	16114	9	—66.0	—59.6	—72.0	—	—
	70	6	18355	18480	18240	6	—67.4	—65.6	—71.3	—	—
	60	6	19278	19410	19197	6	—66.9	—61.7	—69.9	—	—
	50	5	20414	20540	20313	5	—65.2	—61.3	—69.0	—	—
	40	3	21789	21926	21713	3	—62.1	—60.6	—64.9	—	—
	30	3	23582	23720	23505	3	—58.8	—56.6	—60.3	—	—
	20	2	26080	26096	26077	2	—55.2	—54.5	—55.8	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 0000 U.T.	Surface	27	*1000m.b.	*1008m.b.	*991m.b.	27	13.9	24.4	9.6	27	5.5
	1000	27	143	207	63	15	11.8	16.8	9.2	15	5.0
	850	27	1509	1567	1441	27	10.6	18.4	0.2	27	— 6.0
	700	27	3103	3168	3016	27	1.9	6.0	— 2.7	27	—13.2
	600	27	4329	4397	4237	27	— 6.3	— 3.1	—10.2	27	—20.1
	500	27	5728	5808	5641	27	—16.2	—12.4	—19 2	27	—27.8
	400	27	7367	7467	7296	27	—28.7	—26.5	—33.5	27	—39.3
	300	26	9362	9511	9251	26	—44.9	—39.9	—49.6	26	—53.0
	250	26	10553	10732	10417	26	—52.8	—41.0	—58.9	26	—61.4
	200	26	11979	12166	11797	26	—57.6	—49.0	—66.5	15	—64.8
	150	26	13790	14006	13588	26	—60.6	—56.3	—63.9	4	—68.8
	100	22	16273	16463	16107	22	—67.4	—62.5	—72.0	—	—
	70	18	18399	18609	18230	18	—68.3	—62.6	—74 3	—	—
	60	15	19269	19545	19164	15	—66.0	—60.0	—69.6	—	—
	50	14	20442	20657	20264	14	—64.5	—60.7	—68.9	—	—
	40	13	21820	22019	21618	13	—62.1	—58 5	—66.8	—	—
	30	13	23611	23819	23378	13	—59.1	—54.3	—62 5	—	—
	20	11	26177	26446	25908	11	—54.1	—45.5	—58.9	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan 0000 U.T.	Surface	27	*991m.b.	*998m.b.	*985m.b.	27	16.6	23.4	11.0	27	0.3
	1000	27	122	176	63	—	—	—	—	—	—
	850	27	1514	1552	1488	27	16.9	22.2	11.8	27	— 5 0
	700	27	3137	3180	3095	27	6.7	10.7	2.9	27	—13.3
	600	27	4335	4435	4273	27	— 1.4	2 3	— 5.0	27	—19.9
	500	26	5786	5875	5725	26	—11.6	— 5.6	—15.0	26	—28.1
	400	26	7480	7563	7402	26	—23.9	—17.0	—28.0	26	—38.1
	300	22	9510	9652	9399	22	—39.0	—31.2	—44.0	22	—51.9
	250	22	10750	10910	10609	22	—47.1	—41.7	—51.8	21	—58.8
	200	21	12197	12383	12054	21	—54.6	—51.0	—60.0	20	—65.0
	150	20	14005	14187	13867	20	—62.6	—58.4	—65.4	1	—66.8
	100	19	16450	16617	16310	19	—71.3	—69.7	—74.6	—	—
	70	16	18561	18680	18440	16	—70.9	—61.4	—74.8	—	—
	60	14	19484	19633	19370	14	—67.4	—59.6	—71.9	—	—
	50	14	20590	20708	20481	14	—63.0	—59.2	—67.1	—	—
	40	11	21959	22078	21851	11	—60.6	—57.8	—63.8	—	—
	30	11	23758	23891	23640	11	—59.0	—54.8	—63.6	—	—
	20	10	26326	26497	26197	10	—53.1	—51.4	—55.4	—	—
	10	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

Table B 1 (*contd.*). UPPER AIR CLIMATOLOGICAL DATA

FEBRUARY—1969

Station	Pressure Surface Millibar	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh (A) 1200 U.T.	Surface	25	*1013m.b.	*1021m.b.	*1005m.b.	25	18.2	21.2	14.5	25	10.2
	1000	25	128	206	71	25	17.0	20.7	13.4	25	8.5
	850	25	1501	1563	1446	25	9.2	19.6	0.2	25	— 4.8
	700	24	3086	3155	2998	24	1.3	4.9	— 1.8	24	—12.8
	600	24	4309	4384	4203	24	— 6 4	— 4.0	—10.3	24	—18.5
	500	24	5710	5794	5591	24	—16.1	—14.0	—19.0	24	—26.8
	400	23	7346	7447	7237	23	—28 4	—25.7	—30.9	23	—38 0
	300	23	9346	9468	9224	23	—44.0	—39 5	—47.8	22	—53.7
	250	22	10545	10677	10412	22	—53.3	—44.7	—57.3	20	— 62.3
	200	20	11954	12085	11842	20	—60.2	—49.6	—67.4	6	— 64.8
	150	17	13746	13868	13681	17	—58.4	— 54.0	—63.4	—	—
	100	11	16271	16373	16189	11	—64.5	—62.6	—65.8	—	—
	70	6	18440	18540	18340	6	—64 6	—61.0	—70.0	—	—
	60	6	19383	19465	19283	6	—62.9	—58.4	—66.6	—	—
	50	5	20496	20614	20399	5	—60 7	—57.8	—62.6	—	—
	40	4	21862	21994	21798	4	—58.3	—56.5	—59.3	—	—
	30	3	23629	23612	23612	3	—57.1	—55.0	—59.0	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 1200 U.T.	Surface	26	*999m.b.	*1007m.b.	*989m.b.	26	22.5	31.2	16.7	26	4.7
	1000	26	133	200	43	14	19.8	27.4	16.4	14	3.5
	850	26	1514	1568	1454	26	11.7	21.8	2.0	26	— 6.5
	700	25	3115	3184	3043	25	3.4	8.0	— 2.0	25	—14.0
	600	25	4342	4428	4234	25	— 5.2	— 1.0	— 9.7	25	—20.4
	500	25	5750	5850	5639	25	—14.9	—11.6	— 17.8	25	—29.5
	400	24	7399	7520	7299	24	—27.3	—24.4	—36.1	24	—41.0
	300	23	9406	9544	9301	23	—42.7	—38.9	—47.8	23	—55.2
	250	23	10614	10753	10497	23	—51.3	—40.0	57.8	23	—64.1
	200	23	12041	12209	11877	23	—57.7	—49.0	66.0	10	— 65.5
	150	21	13857	14056	13653	21	—59.6	—55.0	—64 5	6	—69.4
	100	17	16353	16550	16184	17	—67.0	—61.7	—69.0	—	—
	70	14	18516	18660	18390	14	—66.4	—60.3	—69.5	—	—
	60	13	19461	19592	19331	13	63.9	—59.7	—66 6	—	—
	50	10	20593	20705	20460	10	62.5	—58.3	65.9	—	—
	40	6	21993	22092	21894	6	—58.3	—56.1	— 60.0	—	—
	30	4	23851	23910	23716	4	—54.4	— 52.3	— 55.7	—	—
	20	2	26526	26528	26525	2	—50.0	—50.0	— 50.1	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan 1200 U.T.	Surface	26	*991m.b.	*996m.b.	*985m.b.	26	27.6	34 5	20.0	26	0.6
	1000	26	111	158	59		—	—		—	—
	850	26	1517	1554	1485	26	17 1	23 6	12 5	26	— 6.4
	700	26	3142	3193	3101	26	6.7	10.8	2.9	26	—14.7
	600	26	4388	4441	4339	26	1.4	2.5	5.2	26	—21.2
	500	26	5854	5876	5744	26	11.1	— 7.0	16 3	26	—29.6
	400	26	7490	7579	7384	26	23.3	19.8	29.0	26	—40.1
	300	26	9538	9646	9372	26	37.7	29 5	44.0	25	— 52.0
	250	25	10772	10896	10580	25	46.4	40.6	51.7	24	— 59.4
	200	25	12224	12369	12025	25	54.1	50 1	60 3	23	—65.7
	150	25	14034	14192	13848	25	61.7	51.4	68.0	2	—68.6
	100	22	16489	16603	16359	22	70.4	63.7	74.9	—	—
	70	20	18600	18720	18506	20	69.7	67.2	74.0	—	—
	60	17	19528	19650	19408	17	65.6	—59.8	68.8	—	—
	50	16	20655	20874	20545	16	61.3	55.4	63.5	—	—
	40	11	22079	22257	21945	11	—58.6	55.5	63.0	—	—
	30	10	23914	24086	23763	9	—54.2	52.0	55.8	—	—
	20	7	26555	26708	26405	7	49.0	45.9	52.3	—	—
	10	1	31388	—	—	1	33.4	—	—	—	—

N = The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde stations.

Table B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE. THE HIGHEST WIND SPEED IN THE UPPER AIR

FEBRUARY — 1969

	Station	Freezing Level									First Tropopause									Highest wind speed			
		Mean			Highest			Lowest			Mean			Highest			Lowest						
		Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Direction (000–360)	Speed in Knots
0000 U.T.		(N)	(N)	(N)							(N)	(N)	N)										
	Mersa Matruh (A)	3058 (26)	703 (26)	-10.1 (26)	3680	647	-12.9	2760	730	-4.2	11196 (15)	225 (15)	-61.3 (15)	12380	184	-67.2	9570	287	-51.7	7670	383	270	115
	Helwan	3309 (27)	683 (27)	-13.7 (27)	3860	636	-28.0	1530	844	-4.2	10984 (26)	220 (26)	-60.6 (26)	14044	125	-68.5	9200	311	-43.8	10050	269	305	150
	Aswan . . . . (A)	4147 (27)	617 (27)	-18.5 (27)	4980	560	-26.0	3700	650	-15.4	16217 (18)	105 (18)	-72.2 (18)	17705	80	-74.4	13550	163	-67.3	14700	114	280	162
1200 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	Mersa Matruh (A)	3067 (24)	704 (24)	-12.2 (24)	3770	640	-13.8	1500	845	-1.0	11603 (17)	214 (17)	-60.8 (17)	13150	166	-63.6	10010	272	-50.1	14170	141	280	173
	Helwan	3619 (25)	658 (25)	-16.7 (25)	4160	619	-25.1	2680	738	-12.1	11900 (20)	205 (20)	-59.8 (20)	15280	123	-65.4	8720	332	-39.5	11160	235	255	174
	Aswan . . . (A)	4151 (26)	617 (26)	-19.8 (26)	4720	579	-22.1	3480	669	-16.8	15928 (20)	114 (20)	-70.5 (20)	18200	76	-75.1	11900	210	-58.2	14310	139	280	195

Table B 3.—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

MERSA MATRUH (A)—FEBRUARY 1969

Time	Pressure Surface (Millibar.)	Wind between specified ranges of direction (000—360)°																								Number of Calm winds	Total Number of Observations (T N)	Mean Scalar wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	0	—	0	—	0	—	1	7	3	6	5	7	4	7	4	12	0	—	6	12	2	16	2	10	0	27	10
	1000	0	—	0	—	0	—	0	—	3	9	1	9	0	—	1	29	0	—	0	—	0	—	3	13	0	8	13
	850	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	37	2	21	3	20	2	21	1	13	0	9	22
	700	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	34	3	29	2	29	2	24	0	9	29
	600	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	34	2	38	3	27	1	34	0	8	32
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	53	2	33	1	59	0	6	48
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	69	2	46	1	66	0	6	6
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	78	1	48	1	67	0	6	71
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	74	3	68	0	—	0	4	70
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	95	1	64	0	—	0	2	89
	150	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Sufface	1	7	2	8	1	5	3	13	3	11	1	28	0	—	1	12	0	—	1	30	4	20	7	10	1	25	13
	1000	0	—	1	10	0	—	2	10	3	14	1	9	0	—	2	10	0	—	3	18	3	22	6	12	2	23	13
	850	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	11	4	11	3	12	8	19	2	25	2	22	14
	700	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	29	5	29	10	30	2	20	0	21	29
	600	1	42	6	—	0	—	0	—	0	—	0	—	0	—	0	—	5	35	7	38	6	34	0	—	0	19	36
	500	2	22	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	68	4	48	8	44	0	—	0	17	47
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	16	6	58	7	58	0	—	0	14	55
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	90	7	78	4	78	0	—	0	12	79
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	10	86	2	111	0	—	0	12	90
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	120	6	107	1	82	0	—	0	8	106
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	106	1	102	0	—	0	5	105
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the elemnet has been observed during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

Table B 3.(*contd.*)—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEA SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

HELWAN—FEBRUARY 1969

Time	Pressure Surface (Millibar.)	Wind between specified ranges of direction (000—360)°																						Number of Calm winds	Total Number of Observations (TN)	Mean Scalar wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	4	7	1	14	9	8	1	10	6	7	0	—	0	—	1	5	0	—	0	—	0	—	1	7	4	27	6
	1000	3	14	3	12	4	16	0	—	0	—	0	—	0	—	1	26	1	8	0	—	1	6	1	24	1	15	14
	860	4	14	1	9	0	—	0	—	0	—	1	60	1	33	1	29	9	24	3	18	4	18	3	15	0	27	21
	700	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	50	6	40	12	32	6	37	1	19	0	26	34
	600	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	45	16	50	3	54	0	—	0	26	49
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	66	13	55	6	62	0	—	0	23	59
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	80	8	58	3	55	0	—	0	13	61
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	51	5	95	3	93	0	—	0	9	89
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	84	1	145	0	—	0	3	105
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	83	0	—	0	—	0	1	83
	150	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	3	8	4	9	2	9	1	6	0	—	1	5	7	11	0	—	2	8	2	4	2	10	2	8	0	26	8
	1000	5	11	4	22	0	—	1	6	0	—	0	—	0	—	0	—	1	7	1	16	1	18	1	7	0	14	14
	850	4	15	1	18	0	—	0	—	0	—	0	—	3	10	4	33	7	23	1	6	3	14	3	15	0	26	19
	700	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	26	4	40	8	28	6	38	3	38	0	23	34
	600	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	47	9	47	5	42	1	49	0	21	46
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	57	13	59	2	26	0	—	0	19	60
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	89	11	71	0	—	0	—	0	13	74
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	113	4	91	1	62	0	—	0	6	90
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	129	0	—	0	—	0	2	129
	200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	150	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = Number of cases the element has been observed during the month,

T.N. = The total number of cases the wind has been observed for all directions during the month,

Table B 3.(*contd*)—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SCLECTED PRESSURE SURFACES.

ASWAN (A) — FEBRUARY 1969

Time	Pressure Surface (Millibar.)	Wind between specified ranges of direction (000–360)°																						Number of Calm winds	Total Number of Observations (T N)	Mean Scalar wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	13	8	2	6	2	8	0	—	3	6	0	—	0	—	0	—	0	—	0	—	1	9	5	9	1	27	8
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	3	6	2	8	6	9	1	21	2	13	0	—	1	13	0	—	1	4	1	8	6	10	3	15	0	26	10
	700	3	15	1	20	0	—	1	14	1	8	0	—	0	—	2	6	3	14	6	12	5	15	4	20	0	26	14
	600	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	5	4	20	7	14	9	19	5	23	0	26	20
	500	0	—	1	25	0	—	0	—	0	—	0	—	0	—	0	—	2	30	13	30	8	28	2	23	0	26	29
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	71	13	41	11	44	0	—	0	25	43
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	72	11	65	8	50	0	—	0	20	60
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	82	12	81	7	70	0	—	0	20	77
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	91	12	99	6	84	0	—	0	20	94
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	11	91	7	84	0	—	0	18	88
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	67	8	51	7	64	0	—	0	16	58
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	30	10	34	1	35	0	—	0	13	34
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	41	9	25	1	54	0	—	0	12	30
	50	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	18	1	30	7	31	1	13	0	—	0	10	28
	40	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	14	3	23	3	16	0	—	1	5	0	9	17
	30	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	20	5	17	2	25	0	—	0	9	20
	20	1	15	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	9	2	32	0	—	0	4	22
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	11	10	7	9	0	—	0	—	0	—	1	6	2	8	0	—	0	—	0	—	0	—	5	8	0	26	9
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	5	14	2	10	5	15	3	13	2	6	1	10	0	—	1	10	0	—	0	—	0	—	7	13	0	26	13
	700	4	16	3	11	2	8	0	—	0	—	0	—	0	—	0	—	3	9	6	14	2	21	6	18	0	26	14
	600	1	15	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	18	6	16	9	20	4	20	0	26	18
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	17	31	6	34	3	23	0	26	31
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	39	16	40	9	50	0	—	0	25	43
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	50	15	64	7	69	1	46	0	25	63
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	67	15	85	6	72	1	37	0	25	78
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	85	18	93	5	92	0	—	0	25	92
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	95	17	89	5	83	0	—	0	23	88
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	38	14	50	4	50	0	—	0	19	54
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	24	7	28	6	29	0	—	0	15	28
	60	0	—	0	—	1	10	0	—	0	—	0	—	0	—	0	—	1	29	5	25	4	16	0	—	1	12	19
	50	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	17	1	33	3	20	2	15	0	—	0	8	20
	40	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	26	1	32	1	17	2	24	1	19	0	7	24
	30	0	—	0	—	0	—	0	—	0	—	1	15	1	10	0	—	1	16	1	14	0	—	0	—	0	4	14
	20	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	13	1	20	0	—	0	—	1	5	0	3	13
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

TN = The total number of cases the wind has been observed for all directions during the month,

REVIEW OF AGRO-METEOROLOGICAL STATIONS

EL KASR—FEBRUARY 1969

This month was slightly warmer and remarkably less rainy than normal. The month was characterized by six warm spells during the periods (5th-6th), (10th-11th), (14th-15th), on the 21st, 25th and 28th respectively. The third warm spell was the most pronounced and yielded the highest maximumair temperature for the month (31.4°C) on the 15th. Three cold waves generally of light intensity were experienced during the periods : (7th-9th), (12th-13th) and (18th-20th). The first cold wave yielded the highest daily rainfall for the month (3.4 mms.) on the 7th and the second cold wave yielded the lowest maximum air remperature (15.8°C) on the 12th.

The extreme maximum soil temperatures were lower than the corresponding values of last February at depths between 2, 20 cms. and the differences ranged between 4.1°C at 2 cms. and 0.1°C at 20 cms. At deeperdepths between 50, 100 cms. the extreme soil maxima were slightly higher (0.1°C) than last February.

The extreme minimum soil temperatures were lower than the corresponding values of last February at all depths between 2, 100 cms. and the differences ranged between 2.5°C at 50 cms. and 1.5°C at 100 cms.

The mean daily Pan evaporation was 1.15 mm. less than the corresponding value of February 1968. The mean daily actual duration of bright sunshine was 0.5 hour more than the corresponding value of February 1968.

TAHRIR — FEBRUARY 1969

This month was slightly warmer than last February and almost rainless. The month was characterized by four warm spells during the periods (4th-6th), (10th-11th), (15th-17th) and (22rd-28th). The last warm spell was the most pronounced, and yielded the highest maximum air temperature for the month (30.9°C) on the 25th. Three light cold waves were experinced during the periods (7th-9th), (12th-14th) and (18th-21st) The first cold wave yielded the lowest maximum air temperature for the month (19.5°C) on the 8th.

The extreme maximum soil temperatures were higher than the corresponding values of last February at all depths between 2, 100 cms. and the differences ranged between 2.3°C at 20 cms. and 1.1°C at 5 cms. The extreme minimum soil temperatures were also higher than the corresponding values of last February at all depths between 2, 100 cms. and the differences ranged between 1.0°C at 5 cms. and 0.2°C at 100 cms.

The mean daily Pan evaporation was 0.25 mm. more than the corresponding value of February 1968. The mean daily actual duration of bright sunshine was 0.2 hour less than the corresponding value of February 1968.

BAHTIM — FEBRUARY 1969

This month was warmer than last February and rainless. The month was characterized by four warm spells during the periods (4th-6th), (11th-12th), (15th-17th) and (24th-28th). The last warm spell was the most pronounced and yielded the highest maximum air temperature for the month (30.6°C) on the 25th. Four cold waves were experienced on the 1st and during the periods (8th-10th), (13th-14th) and (18th-20th). The lowest maximum air temperature for the month was 18.0°C and was reported on both the 1st and 13th. The minimum air temperature at 5 cms. above ground fell below 0°C on the 2nd and 14th only when its values were - 1.1°C respectively.

The extreme maximum soil temperatures were higher than the corresponding values of last February at all depths between 2, 100 cms. and the differences ranged between 5.0°C at 5 cms. and 0.5°C at 2 cms. The extreme minimum soil temperatures were also higher than the corresponding values of last February at all depths between 2, 100 cms. and the differences ranged between 1.1°C at 50 cms. and 0.3°C at 2 cms.

The mean daily Pan evaporation was 1.34 mm. more than the corresponding value of February 1968. The mean daily actual duration of bright sunshine was 0.4 hour less than the corresponding value of February 1968.

KHARGA — FEBRUARY 1969

This month was warmer than normal and rainless. The month was characterized by four heat waves during the periods (2nd-7th), (11th-12th), (14th-17th) and (22nd-28th). The last heat wave was the most pronounced and yielded the highest maximum air temperature for the month (36.6°C) on the 27th. Three cold waves were experienced during the period (8th-10th), on the 13th and during the period (18th-21st). The first cold wave yielded the lowest maximum air temperature for the month (19.8°C) on the 8th.

The extreme maximum soil temperatures were higher than the corresponding values of last February at all depths between 2, 100 cms. and the differences ranged between 3.6°C at 10cms. and 0.9°C at 100 cms. The extreme minimum soil temperatures were higher than the corresponding values of last February at all depths apart from the 50 cms. depth where the values were the same, the differences ranged between 3.4°C at 2 cms. and 0.4°C at 100 cms.

The mean daily Pan evaporation was 1.67 mm more than the corresponding value of February 1968. The mean daily actual duration of bright sunshine was the same as the corresponding value of February 1968.

Table C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

FEBRUARY — 1969

STATION	Air Temperature (°C)					Mean Duration in hours of daily air temperature above the following values										
	Mean Max.	Mean Min.	Mean of the day	Night time mean	Day time mean	-5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C
El Kasr	19.8	8.7	14.4	11.9	16.8	24.0	24.0	24.0	18.5	10.5	1.9	0.3	0.1	0.0	0.0	0.0
Tahrir	23.5	8.8	15.3	12.2	18.3	24.0	24.0	23.8	19.4	12.4	4.4	1.2	0.04	0.0	0.0	0.0
Bahtim	23.0	6.4	14.5	10.6	18.1	24.0	24.0	22.3	17.6	11.2	4.7	1.4	0.0	0.0	0.0	0 0
Kharga	28.3	9.1	18.9	14.9	22 6	24.0	24.0	23.9	21.9	15.6	9.9	4.8	2.0	0.2	0.0	0.0

Table C 2.—ABSOLUTE VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS.

FEBRUARY — 1969

STATION	Max. Temp. at 1½ metres (°C)				Min. Temp. at 1½ metres (°C)				Min. Temp. at 5 cms. above (°C)			
	Highest		Lowest		Highest		Lowest		Dry soil		Grass	
	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date
El Kasr	31.4	15	15.8	12	14.1	26	5.0	1	1.8	1	—	—
Tahrir	30.9	25	19.5	8	17.5	16	3.2	1	1.3	1	—	—
Bahtim	30.6	25	18.0	1,13	13.7	16	0.8	1	-1.1	2	—	—
Kharga	36.6	27	19.8	8	16.2	28	3.0	2	0.1	2	—	—

Table C 3.—(SOLAR+SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL

FEBRUARY - 1969

STATION	(Solar+Sky) Radiation gm. cal/cm²	Duration of Bright Sunshine (hours)			Relative Humidity				Vapour pressure (mms)						Evaporation (mms)		Rainfall (mms)		
		Total Actual monthly	Total Possible monthly	%	Mean of day	1200 U.T.	Lowest	Date	Mean of day	1200 U.T.	Highest	Date	Lowest	Date	Piche	Pan class A	Total Amount Monthly	Max. Fall in one day	Date
El Kasr .	307.6	222.5	309.8	72	74	61	19	15	8.9	9.8	13.9	25	5.2	11	5.2	5.42	3.7	3.4	4
Tahrir . .	390.5	222.8	311.1	72	66	43	15	16	8.2	8.0	13.6	26	4.3	16	5.7	5.09	Tr.	Tr.	22
Bahtim .	403.2	223.4	311.7	72	66	43	21	15	7.8	8.3	13.6	26	4.1	12	5.9	5.43	0	0	—
Kharga .	395.0	290.8	316.9	92	32	20	9	6,15	4.8	5.1	8.7	28	2.3	7	13.0	9.67	0	0	—

Table C 4.—EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS (cms) IN DIFFERENT FIELDS

FEBRUARY 1969

STATION	Highest (H) Lowest (L)	Extreme soil temperature (°C) in dry field at different depths (cms.)								Extreme soil temperature (°C) in grass field at different depths (cms.)							
		2	5	10	20	50	100	200	300	2	5	10	20	50	100	200	300
El Kasr	H	27.0	24.1	22.0	18.9	17.6	17.4	23.4	—	—	—	—	—	—	—	—	—
	L	5.1	5.5	6.3	9.3	11.6	14.7	22.8	—								
Tahrir	H	39.2	32.3	27.6	23.7	20.5	19.1	19.6	21.3	—	—	—	—	—	—	—	—
	L	6.6	7.2	8.4	11.4	14.1	16.2	19.1	20.8	—	—	—	—	—	—	—	—
Bahtim	H	36.4	30.0	24.5	21.6	20.3	20.2	22.5	23.9	—	—	—	—	—	—	—	—
	L	6.3	7.8	11.5	14.6	17.5	19.5	21.7	23.3	—	—	—	—	—	—	—	—
Kharga	H	41.9	34.8	30.3	26.3	24.2	23.4	25.4	27.5	—	—	—	—	—	—	—	—
	L	6.7	9.0	12.9	15.8	18.7	21.6	24.7	26.6	—	—	—	—	—	—	—	—

Table C 5.—SURFACE WIND

FEBRUARY 1969

STATION	Wind Speed m/sec at 1½ metres			Days with surface wind speed at 10 metres							Max. Gust (knots at 10 metres	
	Mean of the day	Night time mean	Day time mean	≥10 knots	≥15 knots	≥20 konts	≥25 knots	≥30 knots	≥35 knots	≥40 knots	value	Date
El Kasr . . .	2.2	1.9	2.5	—	—	—	—	—	—	—	—	—
Tahrir	2.1	1.6	2.7	26	13	5	3	0	0	0	34	7,8,12,3
Bahtim	2.4	1.7	3.0	24	14	6	4	1	0	0	40	12
Kharga . . .	3.0	2.2	3.8	23	17	8	2	1	0	0	35	18,19

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UNITED ARAB REPUBLIC

MONTHLY WEATHER REPORT

VOLUME 12 NUMBER 3

MARCH, 1969

U.D.C. 551. 506.1 (62)

METEOROLOGICAL DEPARTMENT
CAIRO

PUBLICATIONS OF THE METEOROLOGICAL DEPARTMENT OF THE UNITED ARAB REPUBLIC—CAIRO

In fulfilment of its duties, the U.A.R. Meteorological Department issues several reports and publications on weather, climate and agrometeorology. The principal publications are described on this page.

Orders for publications should be adressed to :
"The Director General, Meteorological Department, Kubri-el-Qubbeh — CAIRO".

THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Department since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968 this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for U.A.R.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of the U.A.R. as well as monthly values of certain elements.

THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in march 1968 which brings normals and mean values up till 1960.

METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff of "The Meteorological Institude for Research and Training" and the Operational Divisions of Meteorological Department.

TECHNICAL NOTES

As from October 1970, the Meteorological Department started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

The first Technical Note I was issued in October 1970 on : Sandstorms & Duststorms in the U.A.R.

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METEOROLOGICAL DEPARTMENT
CAIRO

CONTENTS

Note : For explanatory notes on tables please refer to volume 12 number 1 (January 1969).

GENERAL SUMMARY OF WEATHER CONDITIONS

MARCH 1969

Much changeable, characterized by three pronounced khamsin heat waves, rainy during the third week. Frequent rising sand, mostly during the second half of the month.

GENEERAL DESCRIPTION OF WEATHER

Weather during this month was markedly changeable, characterized in particular by three pronounced khamsin heat waves round the periods : (1—7), (15—17) and (24—31). The break down of the first and second heat waves was associated with appreciable drop in temperature, and followed by weather of mild temperature.

Light rain fell over north of the Republic mainly during the second mild period. Rain was locally heavy over scattered parts in the Mediterranean district on the 20th.

Rising sand occurred during many days, the highest frequency was reported in the Red Sea district. Widespread sandstorms blew between the 17th and 19th.

PRESSURE DISTRIBUTION

The most important pressure systems over the synoptic surface maps during this month were :

— The Siberian anticyclone and its extension through Central Europe.

— The subtropical high pressure over the Atlantic.

— Deep low pressure systems through North Europe.

— Secondary depressions through the Mediterranean and its vicinities, and desert khamsin secondaries travelling near the coast of North Africa.

This month was characterized with high-frequency of khamsin depressions, seven khamsin secondaries have been distinguished.

During the first ten days of the month, three khamsin depressions traversed the northern parts of the Republic. The first khamsin appeared over the Gulf of Serte on the 1st and passed through north of U.A.R. on the 2nd. The second and third khamsin secondaries originated over North Algiers on the 3rd and 7th respectively, and passed through north of U.A.R. on the 7th and 9th.

The fourth khamsin depression during this month appeared over the Gulf of Serte on the 16th as a secondary to a deep trough of low pressure extending over Italy. The khamsin secondary passed through northern parts of the Republic on the 17th. The depression over Italy passed through East Mediterranean on the 19th ; meanwhile a new depression developed west of Italy and proceeded eastwards, passing through East Mediterranean on the 21st.

The fifth khamsin depression originated over North Algiers on the 22nd, as a secondary to a deep depression over Spain. The khamsin secondary proceeded northeastwards passing through East Mediterranean on the 25th ; while the main depression proceeded southeastwards, passing through East Mediterranean on the 27th.

The last two khamsin depressions during this month developed south Tunisia on the 27th and 30th respectively, and traversed northern parts of the Republic and East Mediterranean on the 29th and 31st respectively.

As a result of the transits of the above mentioned depressions, the barometric pressure in U.A.R. remained appreciably below normal most days of the month. Only during the two periods (11—14) and (22—24), the barometric pressure was above its normal as a result of the extension of either the subtropical high pressure over North Africa and East Mediterranean or the high pressure over the Balkans.

The upper air charts during this month showed the following outstanding features.

—Two deep upper lows : one over North Russia and the other over North Atlantic.

— Secondary upper troughs or lows through the Mediterranean and its vicinities, passing through north of U.A.R. on the 3rd,7th, 10th 14th, 22nd and 30th.

SURFACE WIND

As a result of the frequent transit of pressure disturbances through the country during this month, surface wind showed marked changeability. Surface winds blew generally from easterly direction in advance of the travelling khamsin seccondaries and Mediterranean troughs, though they blew from southwesterly direction during their passages, and from northwesterly in their rears. Winds were mostly light to moderate, though they became fresh to strong during many days of the month, mainly in the Mediterranean, Western Desert and Red Sea districts. On the other hand, calms were frequent most of night and early morning intervals in scattered localities.

Gales were recorded at Zaher on the 17th & 31st, at Cairo on the 17th & 18th, at Hurghada on the 7th & 10th, at Asyout on the 17th & 18th and at Matruh on the 16th.

TEMPERATURE

Maximum air temperature showed large variability during this month, its value ranged generally beween 18°, 28°C in the northern parts, between 20°, 34°C in the central parts, between 28°, 38° in the southern parts.

The absolute maximum air temperature was 42.8°C recorded at Dakhla on the 31st.

Minimum air temperature also experienced similar large fluctuations, but rather less in amplitude.

Minimum air temperature values ranged most days of the month between 7°, 16°C in the northern and central parts, and between 10°, 20°C in the southern parts.

The absolute minimum air temperature was 5.1°C recorded at Bahariya on the 11th.

PRECIPITATION

Light to moderate rain fell over the northern parts, and extended till north of upper Egypt district on the 9th and during the period (16th-22nd). Rain was locally heavy over scattered places in the Mediterranean district on the 20th. The monthly rainfall was above normal in general.

The highest daily rainfall was 11.8 mm. recorded at Mersa Matruh on the 20th.

The highest monthly rainfall was 35.9 mm. recorded at Damietta.

Cairo, March 1971

M. F. TAHA
Under Secretary of State
Director General
Meteorological Department

TABLE A 1. — MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION.

MARCH 1969

STATION	Atmospheric Pressure (mbs) M.S.L		Air Temperature °C									Relative Humidity %		Bright Sunshine Duration (Hours)			Piche Evap. (mms) Mean
			Maximum		Minimum			Dry Bulb		Wet Bulb							
	Mean	D.F. Normal or Average	(A) Mean	D.F. Normal or Average	(B) Mean	D.F. Normal or Average	$\frac{A+B}{2}$	Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Total Actual	Total Possible	%	
Sallum	1011.0	—4.0	22.7	+1.3	13.2	+2.1	18.0	17.4	+1.0	13.0	+1.2	57	+ 2	—	—	—	7.4
Mersa Matruh . (A)	1011.3	—4.3	22.0	+1.5	12.0	+2.0	17.0	16.4	+1.4	13.2	+1.8	68	+ 5	—	—	—	7.3
Alexandria . . (A)	1011.6	—4.0	22.8	+1.6	12.2	+1.0	17.5	17.1	+1.3	13.5	+1.3	64	+ 2	214.4	371.6	57	6.0
Port Said . . . (A)	1011.0	—4.4	22.1	+1.9	14.2	+0.6	18.2	17.4	+1.0	14.0	+0.7	67	— 1	203.0	371.6	55	6.4
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1011.5	—3.5	24.7	+1.0	11.4	+3.1	18.0	17.2	+1.5	13.2	+1.4	61	+ 1	205.9	371.8	56	5.0
Cairo (A)	1011.2	—4.1	26.9	+3.0	13.5	+2.1	20.2	20.0	+2.4	13.4	+1.2	43	— 7	—	—	—	17.5
Fayoum	—	—	28.6	+3.3	12.0	+2.0	20.3	20.1	+2.2	13.7	+1.5	45	— 2	—	—	—	6.8
Minya . . . . (A)	1011.4	—4.1	29.0	+3.2	10.8	+2.9	19.9	19.5	+2.9	13.1	+2.0	44	— 4	267.0	372.2	72	10.4
Assyout . . . (A)	1011.4	—3.5	30.8	+4.2	13.7	+3.1	22.2	22.2	+3.6	13.6	+2.6	32	0	—	—	—	17.6
Luxor . . . . (A)	1011.1	—2.3	33.6	+4.3	14.2	+3.5	23.9	23.6	+3.5	14.5	+2.2	31	— 3	—	—	—	9.9
Aswan . . . . (A)	1010.7	—2.3	34.3	+3.7	17.1	+3.8	25.7	25.6	+3.4	13.7	+2.6	19	+ 4	—	—	—	20.2
Siwa	1010.4	—5.2	29.1	+4.1	12.6	+4.2	20.8	20.8	—3.6	12.8	+2.3	34	— 3	—	—	—	12.7
Bahariya	1011.0	—4.4	29.8	+4.2	13.0	+4.1	21.4	21.3	—3.3	12.4	+1.8	29	— 7	—	—	—	13.5
Farafra	1012.6	—4.0	31.0	+4.4	12.6	+3.7	21.8	21.6	—3.7	12.0	+2.3	24	— 3	—	—	—	18.7
Dakhla	1012.4	—2.2	33.0	+5.2	11.0	+1.7	22.0	22.1	—3.8	11.8	+2.2	21	— 3	—	—	—	16.8
Kharga	1011.5	—3.0	36.3	+7.8	13.9	+2.9	25.1	23.7	—3.4	12.3	+1.0	23	— 6	313.4	372.9	84	18.1
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	1010.8	—2.6	26.3	+2.9	15.4	+3.0	20.8	21.2	+2.4	16.0	+2.8	55	+ 5	—	—	—	11.9
Quseir	1011.2	—2.3	26.2	+1.4	17.6	+1.1	21.9	22.2	+1.4	16.6	+2.3	53	+ 7	—	—	—	12.5

Table A2.— MAXIMUM AND MINIMUM AIR TEMPERATURES

MARCH — 1969

Station	Maximum Temperature °C									Grass Min. Temp.		Minimum Temperature °C							
	Highest	Date	Lowest	Date	No. of Days with Max-Temp.					Mean	D. From Normal	Highest	Date	Lowest	Date	No. of Days with Min. Temp.			
					>25	>30	>35	>40	>45							<10	<5	<0	<-5
Sallum	36.8	26	17.1	12	9	3	2	0	0	13.6	—	15.9	25,26,27	9.6	23	2	0	0	0
Mersa Matruh (A)	37.5	26	16.8	22	7	3	1	0	0	—	—	15.0	3	8.3	12	5	0	0	0
Alexandria (A)	36.8	26	17.6	22	9	3	1	0	0	11.5	—	16.6	16	6.9	24	6	0	0	0
Port Said (A)	30.8	26	16.6	22	8	1	0	0	0	14.1	—	17.2	6	10.6	24	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	36.8	26	17.4	22	17	5	1	0	0	—	—	15.0	29	5.8	12	9	0	0	0
Cairo (A)	36.8	26	18.3	23	17	11	4	0	0	—	—	19.8	25	8.0	12	5	0	0	0
Fayoum	38.2	26	20.7	19	19	13	7	0	0	9.8	—	17.9	29	6.4	23	8	0	0	0
Minya (A)	40.0	31	21.0	11	20	15	5	0	0	8.4	—	17.6	29	5.5	11	13	0	0	0
Assyout (A)	41.2	28	21.5	23	21	16	10	3	0	12.0	—	19.9	29	6.7	12	6	0	0	0
Luxor (A)	42.1	31	24.4	23	30	18	15	5	0	10.9	—	20.8	31	8.4	24	8	0	0	0
Aswan (A)	41.8	31	25.0	23	30	22	16	5	0	—	—	23.3	31	9.8	15	1	0	0	0
Siwa	41.6	28	20.7	13	21	12	6	2	0	11.6	—	19.1	27	5.4	14	8	0	0	0
Bahariya	40.1	28	21.2	10	21	14	9	1	0	11.8	—	23.0	27	5.1	11	7	0	0	0
Farafra	41.4	28-31	21.1	11	23	17	9	2	0	12.0	—	21.1	29	5.9	12	11	0	0	0
Dakhla	42.8	31	22.9	13	25	20	14	6	0	—	—	16.6	17	5.6	23	11	0	0	0
Kharga	42.4	31	24.4	14	27	19	15	5	0	12.0	—	23.6	30	7.4	16	4	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	31.4	27	21.6	23	21	3	0	0	0	—	—	21.7	19	10.6	16	0	0	0	0
Quseir	34.0	19	22.0	23	21	1	0	0	0	15.4	—	21.4	28	14.5	13	0	0	0	0

Table A 3.—SKY COVER AND RAINFALL

MARCH — 1969

Station	Mean Sky Cover Oct.					Rainfall mms.										
	00 U.T.	06 U.T.	12 U.T.	18 U.T	Daily Mean	Total Amount	D. From Normal	Max. Fall in one day		Numher of Days with Amount of Rain						
								Amount	Date	<0.1	≥0.1	≥1.0	≥5 0	≥10	≥25	≥50
Sallum . . . . . (A)	5.4	5 2	4.5	4.6	4.9	7.7	— 7.2	3.8	20	0	5	3	0	0	0	0
Mersa Matruh . . . . . (A)	3.4	6.0	5.2	4.1	4.5	19.0	+ 6.7	11.8	20	3	5	4	1	1	0	0
Alexandria . . . . . (A)	5.3	5.6	5.4	4.7	5.2	14.9	+ 2.5	7.4	21	1	6	3	2	0	0	0
Port Said . . . . . (A)	—	3.9	4.5	—	—	15.3	+ 7.6	6.2	20	1	6	4	1	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	2 2	3.9	4 7	2.6	3.5	16.4	+12.2	6.0	21	6	6	5	1	0	0	0
Cairo . . . . . (A)	2.9	4.1	4.4	3.5	3.7	14.6	+12.8	4.2	21	1	5	4	0	0	0	0
Fayoum	—	4.0	4 5	3.7	—	4.9	+ 3.5	3.9	21	1	2	2	0	0	0	0
Minya . . . . . (A)	1.2	2.0	2.9	2.4	2.3	0	— 0.3	0	—	0	0	0	0	0	0	0
Assyout . . . . . (A)	0.8	1.6	2 2	1.6	1.4	0	— Tr.	0	—	0	0	0	0	0	0	0
Luxor . . . . . (A)	0.7	1.6	1.6	1.1	1.2	0	— Tr.	0	—	0	0	0	0	0	0	0
Aswan	0 7	1.1	1.5	1.1	1.1	0	— Tr.	0	—	0	0	0	0	0	0	0
Siwa	2.2	3.1	3.1	2.0	2.6	1.1	+ 0.9	1.1	21	0	1	1	0	0	0	0
Bhariya	1.2	2.8	3.5	3.4	2.3	Tr.	0	Tr.	8.9.19	3	0	0	0	0	0	0
Farafra	—	1.5	2.9	1.8	—	0	— 0.2	0	—	0	0	0	0	0	0	0
Dakhla	0.2	0 5	1.0	0.8	0.6	0	— Tr.	0	—	0	0	0	0	0	0	0
Kharga	0.6	1.1	1.3	0.7	1.3	0	— Tr.	0	—	0	0	0	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0.4	1.5	2.5	0.9	1.4	0	— 0.4	0	—	0	0	0	0	0	0	0
Quseir	1.2	1.5	1.9	1.0	1.4	0	— 0.3	0	—	0	0	0	0	0	0	0

Table A 4. — DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA.

MARCH 1969

Station	Precipitation				Frost	Thunderstorm	Mist Vis ≥ 1000 metres	Fog Vis < 1000 Metres	Haze Vis ≥ 1000 Metres	Thick Haze Vis < 1000 Metres	Dust or Sandrising Vis ≥ 1000 Metres	Dust or Sandstorm Vis < 1000 Metres	Gale	Clear Sky	Cloudy Sky
	Rain	Snow	Ice. Pellets	Hail											
Sallum . . . . . (A)	5	0	0	0	0	0	0	0	0	0	7	2	0	0	7
Mersa Matruh . . . . . (A)	5	0	0	0	0	1	5	0	0	0	11	3	1	2	6
Alexandria . . . . . (A)	6	0	0	0	0	1	6	0	7	0	7	3	0	0	7
Port Said . . . . . (A)	6	0	0	0	0	0	0	0	0	0	6	2	0	—	—
Al Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	6	0	0	0	0	0	1	0	2	0	3	0	0	3	0
Cairo . . . . . (A)	5	0	0	0	0	0	2	1	6	0	12	4	2	5	0
Fayoum	2	0	0	0	0	0	0	0	0	0	3	1	0	—	—
Minya . . . . . (A)	0	0	0	0	0	0	2	0	8	0	8	3	0	17	2
Assyout. . . . . (A)	0	0	0	0	0	0	0	0	6	0	6	3	2	24	0
Luxor . . . . . (A)	0	0	0	0	0	0	0	0	14	0	9	2	0	24	0
Aswan . . . . . (A)	0	0	0	0	0	0	0	0	3	0	15	2	0	25	0
Siwa	1	0	0	0	0	0	0	0	1	0	7	5	0	10	0
Bahariya	0	0	0	0	0	0	1	0	1	0	8	3	0	13	0
Farafra	0	0	0	0	0	0	0	0	0	0	3	3	0	—	—
Dakhla	0	0	0	0	0	0	0	0	1	0	10	0	0	27	1
Kharga	0	0	0	0	0	0	0	0	0	0	0	0	0	25	—
Tor.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0	0	0	0	0	0	0	0	6	0	18	0	2	21	0
Queir	0	0	0	0	0	0	1	0	6	0	6	1	0	22	0

Table A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

MARCH — 1969

Station	calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	All directions
Sallum	5	1	0	1–10	28	37	80	51	35	18	8	15	11	18	83	74	458
				11–27	10	5	26	10	1	0	3	11	34	9	77	83	269
				28–47	0	0	0	0	0	0	0	1	8	0	0	2	11
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**38**	**42**	**106**	**61**	**36**	**18**	**11**	**27**	**53**	**27**	**160**	**159**	**738**
Mersa Matruh . (A)	3	0	3	1–10	30	18	11	24	18	13	7	16	45	34	40	37	293
				11–27	16	28	6	27	54	14	11	40	10	30	85	95	416
				28–47	0	0	0	0	0	0	1	18	0	0	8	2	29
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**46**	**46**	**17**	**51**	**72**	**27**	**19**	**74**	**55**	**64**	**133**	**134**	**738**
Aexandria . . . (A)	1	0	2	1–10	45	37	36	33	73	23	28	24	16	26	74	70	490
				11–27	10	4	6	8	4	12	15	39	22	85	37	6	248
				28–47	0	0	0	0	0	0	1	0	2	0	0	0	3
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**55**	**41**	**42**	**46**	**77**	**35**	**44**	**63**	**40**	**111**	**111**	**76**	**741**
Port Said . . . (A)	0	0	0	1–10	40	23	12	14	12	21	12	21	18	14	26	44	257
				11–27	20	26	61	44	24	28	30	58	68	51	41	26	477
				28–47	0	0	0	0	0	0	2	3	1	0	1	3	10
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**60**	**49**	**73**	**58**	**36**	**49**	**44**	**82**	**87**	**65**	**68**	**73**	**744**
Tanta	14	0	0	1–10	45	51	52	61	39	25	54	88	66	78	44	63	666
				11–27	0	0	0	0	0	7	8	18	14	12	2	3	64
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**45**	**51**	**52**	**61**	**39**	**32**	**62**	**106**	**80**	**90**	**46**	**66**	**730**
Cairo . . . . . (A)	39	2	14	1–10	49	48	62	27	16	18	21	36	32	33	49	51	445
				11–27	9	12	11	10	6	12	56	61	14	24	14	7	236
				28–47	0	0	0	0	0	0	7	1	0	0	0	0	8
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**58**	**60**	**73**	**37**	**22**	**30**	**87**	**98**	**46**	**57**	**63**	**58**	**689**
Fayoum	11	0	0	1–10	155	156	19	11	13	48	81	57	58	23	17	25	663
				11–27	8	4	0	0	0	0	16	10	13	19	0	0	70
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**163**	**160**	**19**	**11**	**13**	**48**	**97**	**67**	**71**	**42**	**17**	**25**	**733**
Minya . . . . . (A)	31	3	0	1–10	164	18	2	2	8	137	56	21	21	15	21	53	518
				11–27	90	0	0	0	0	14	25	8	6	18	27	4	192
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**254**	**18**	**2**	**2**	**8**	**151**	**81**	**29**	**27**	**33**	**48**	**57**	**710**

Table A 5 (*contd*)—NUMBER IN HOURS OF OCCURRENCE OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

MARCH — 1969

Station	calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												All directions
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	
				1–10	8	9	31	45	48	23	22	10	42	125	67	32	462
				11–27	2	0	0	2	7	26	49	24	21	48	46	38	263
Asyout . . . . . (A)	5	0	0	28–47	0	0	0	0	0	1	7	3	1	2	0	0	14
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**10**	**9**	**31**	**47**	**55**	**50**	**78**	**37**	**64**	**175**	**113**	**70**	**739**
				1–10	32	42	28	24	33	33	68	35	58	95	107	63	638
				11–27	1	0	0	0	0	5	13	14	20	20	21	0	94
Luxor . . . . . (A)	12	0	0	28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**33**	**42**	**28**	**24**	**33**	**38**	**81**	**49**	**78**	**115**	**128**	**63**	**732**
				1–10	213	68	23	22	21	19	21	16	21	27	26	64	544
				11–27	88	1	0	3	2	4	13	3	2	24	20	26	186
Aswan . . . . . (A)	0	14	0	28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**301**	**69**	**23**	**25**	**23**	**23**	**37**	**19**	**23**	**51**	**46**	**90**	**730**
				1–10	6	33	33	67	80	17	23	20	21	49	68	61	478
				11–27	8	12	8	21	25	2	23	13	11	29	59	37	248
Siwa	6	0	3	28–47	0	1	0	0	0	0	0	7	1	0	0	0	9
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**14**	**46**	**41**	**88**	**105**	**19**	**46**	**40**	**33**	**78**	**127**	**98**	**735**
				1–10	17	18	35	83	47	49	91	40	53	51	67	59	610
				11–27	8	1	0	0	0	0	6	7	6	21	31	38	118
Dakhla	10	2	4	28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**25**	**19**	**35**	**83**	**47**	**49**	**97**	**47**	**59**	**72**	**98**	**97**	**728**
				1–10	72	41	16	7	15	38	39	22	38	41	34	101	464
				11–27	119	2	0	0	0	2	15	10	1	26	18	39	232
Kharga	32	4	12	28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**191**	**43**	**16**	**7**	**15**	**40**	**54**	**32**	**39**	**67**	**52**	**140**	**696**
				1–10	11	16	10	14	35	52	23	9	6	6	38	43	263
				11–27	89	17	0	0	9	63	49	5	2	6	59	115	405
Hurghada	28	0	18	28–47	11	0	0	0	0	2	1	0	0	0	4	12	30
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**111**	**33**	**10**	**14**	**44**	**117**	**64**	**14**	**8**	**12**	**101**	**170**	**698**
				1–10	25	29	12	42	50	62	42	24	21	56	83	46	492
				11–27	56	3	0	4	0	16	3	1	7	44	27	72	233
Quseir		0	0	28–47	0	0	0	0	0	0	0	0	1	0	0	3	4
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**81**	**32**	**12**	**46**	**50**	**78**	**45**	**25**	**29**	**100**	**110**	**121**	**729**

Table B 1.—UPPER AIR CLIMATOLOGICAL DATA
MARCH—1967

Station	Pressure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh 0000 U.T.	Surface	26	1008m.b.	1016m.b.	997m.b.	26	15.0	23.2	6.8	26	11.3
	1000	25	103	162	28	25	15.0	23.3	11.3	25	10.9
	850	26	1466	1520	1331	26	11.5	22.5	3.1	26	— 5.1
	700	26	3067	3156	2920	26	2.1	10.0	— 5.6	25	—13.5
	600	26	4293	4402	4118	26	— 6.7	— 1.6	—14.7	26	—16.9
	500	26	5692	5823	5490	26	—16.7	—12.5	—24.6	25	—26.6
	400	25	7322	7476	7019	25	—27.5	—24.9	—37.2	24	—37.9
	300	22	9342	9492	9052	22	—43.7	—40.1	—48.3	21	—52.6
	250	21	10537	106 7	10290	21	—53.3	—49.9	—57.0	19	—61.7
	200	19	11964	12111	11819	19	—57.3	—50.5	—64.5	11	—63.6
	150	14	13793	13906	13654	14	—57.6	—50.0	—62.8	5	—67.4
	100	9	16317	16410	16209	9	—66.0	—60.4	—72.0	—	—
	70	5	18473	18555	18400	5	—68.7	—62.7	—74.5	—	—
	60	3	19412	19460	19355	3	—65.4	—62.8	—67.0	—	—
	50	3	20519	20581	20485	3	—62.0	—60.6	—64.6	—	—
	40	2	21948	21981	21916	2	—57.5	—57.5	—57.5	—	—
	30	1	23791	—	—	1	—60.0	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 0000 U.T.	Surface	31	*996m.b.	*1003m.b.	*985m.b.	31	16.6	27.3	10.7	31	6.0
	1000	31	97	165	11	8	12.1	19.2	10.6	8	6.7
	850	31	1475	1544	1422	31	13.7	24.9	1.8	31	— 4.9
	700	31	3081	3172	2918	31	3.5	12.7	— 9.7	31	—11.7
	600	31	4313	4416	4143	31	— 5.5	0.5	—13.0	31	—18.3
	500	31	5716	5833	5488	31	—15.3	—11.5	—21.4	31	—26.0
	400	31	7361	7496	7101	31	—27.5	—24.5	—31.3	31	—37.4
	300	30	9360	9518	9048	30	—43.3	—39.0	—47.8	30	—51.7
	250	30	10566	10738	10240	30	—51.0	—43.1	—55.3	29	—58.8
	200	28	12021	12184	11863	28	—55.3	—45.1	—65.0	20	—61.9
	150	25	13845	13969	13736	25	—59.2	—48.4	—65.2	10	—65.1
	100	22	16338	16424	16233	22	—67.2	—58.8	—71.3	1	—64.5
	70	22	18485	18620	18310	22	—67.6	—62.7	—74.1	—	—
	60	18	19410	19490	19316	18	—65.5	—60.0	—73.0	—	—
	50	18	20528	20637	20433	18	—62.5	—59.8	—67.0	—	—
	40	15	21913	22023	21823	15	—59.7	—58.1	—61.9	—	—
	30	9	23728	23853	23616	9	—57.6	—53.3	—60.5	—	—
	20	7	26318	26464	26191	7	—54.1	—52.0	—55.8	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan 0000 U.T.	Surface	29	*988m.b.	*995m.b.	*980m.b.	29	21.1	30.0	13.0	29	1.9
	1000	29	92	151	21	—	—	—	—	—	—
	850	29	1500	1585	1428	29	19.2	25.9	8.2	29	—3.3
	700	29	3133	3230	3046	29	7.5	11.0	2.3	29	—10.6
	600	28	4384	4492	4284	28	— 0.5	3.8	—4.4	28	—20.7
	500	28	5817	5940	5715	28	—10.6	— 5.7	—13.4	28	—30.9
	400	28	7498	7635	7408	28	—22.8	—19.3	—26.0	28	—30.5
	300	28	9543	9693	9459	28	—37.4	—33.8	—41.6	28	—50.5
	250	28	10783	10922	10686	28	—45.0	—40.2	—50.4	28	—57.1
	200	28	12176	12378	12152	28	—53.1	—42.8	—58.2	28	—64.2
	150	27	14061	14163	13973	27	—62.6	—56.4	—68.8	4	—70.8
	100	22	16513	16646	16428	22	—71.7	—66.0	—75.4	—	—
	70	17	18604	18750	18480	17	—72.5	—66.3	—78.2	—	—
	60	15	19521	19644	19443	15	—67.7	—63.8	—72.6	—	—
	50	15	20632	20746	20553	15	—63.5	—59.0	—67.1	—	—
	40	13	22021	22131	21911	13	—60.2	—56.6	—64.7	—	—
	30	13	23827	23949	23727	13	—58.1	—55.3	—60.7	—	—
	20	8	26408	26534	26334	8	—52.2	—48.4	—54.9	—	—
	10	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

Table B 1 (*contd.*).—UPPER AIR CLIMATOLOGICAL DATA

MARCH—1969

Station	Pressure Surface Millibar	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh 1200 U.T.	Surface	27	*1008m.b.	*1016m.b.	*994m.b.	27	19.5	30.1	14.2	27	11.0
	1000	26	103	163	37	24	18.7	30.0	13-0	24	9.9
	850	27	1473	1517	1367	26	11 1	23.9	1.0	25	— 3.5
	700	25	3076	3196	2965	25	— 2 3	11.4	— 8.0	24	—12.4
	600	22	4291	4410	4122	22	— 6.5	0 3	—15.5	21	—19.5
	500	20	5686	5842	5486	20	—16 3	— 9.6	—24.6	20	—28.5
	400	20	7330	7528	7078	20	—27 9	—21.9	—36.5	20	—40.4
	300	20	9336	9579	9061	20	—42 3	—37.5	—45.7	19	—53.7
	250	19	10555	10809	10289	19	—50 5	—43.8	—56.0	16	—60.7
	200	16	11972	12148	11774	16	—55 0	—45.3	—63 5	8	—63.4
	150	11	13802	13937	13666	11	—55 8	—47.8	—62.0	5	—66.1
	100	9	16353	16460	16262	9	—60.6	—53.6	—65.4	1	—64.8
	70	5	18545	18600	18485	5	—62.6	—58.9	—66.5	—	—
	60	3	19491	19540	19447	3	—62.0	—59.2	—63.8	—	—
	50	2	20626	20660	20591	2	—61.4	—58·7	—64.0	—	—
	40	1	22047	—	—	1	—57.7	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 1200 U. T.	Surface	28	*994m.b.	*1002m.b.	*983m.b.	28	25.7	35.1	17.3	28	5.0
	1000	28	97	100	4	5	19.6	23.3	18 2	5	7.9
	850	28	1490	1552	1365	28	14.1	24.4	2.1	28	— 4.1
	700	27	3097	3187	2929	27	3.8	10.1	— 5.0	27	—12.7
	600	27	4437	4429	4132	27	— 5.1	— 0.7	—13.0	27	—19.4
	500	27	5734	5851	5506	27	—14.8	—10.0	—22.7	27	—29.4
	400	27	7384	7512	7110	27	—27.1	—20.6	—35.4	27	—40.8
	300	26	9395	9571	9061	26	—41.4	—34.9	—47.1	26	—54.8
	250	25	10604	10804	10292	25	—49.6	—39.3	—55.6	25	—61.6
	200	24	12056	12238	11792	24	—55.4	—45.4	—69.4	21	—66.1
	150	21	13850	14026	13686	21	—57 2	—49 4	—66.3	12	—68.0
	100	17	16400	16526	16314	17	—66.4	—59.5	—77.9	2	—70.6
	70	12	18569	18670	18460	12	—67.1	—64.9	—70.5	—	—
	60	9	19505	19597	19394	9	—65.4	—63.2	—68.6	—	—
	50	8	20640	20735	20554	8	—61.8	—56.3	—66.6	—	—
	40	7	22031	22167	21938	7	—58 1	—52.4	—61.3	—	—
	30	6	23856	24025	23759	6	—54.2	—51 8	—56.9	—	—
	20	5	26489	26688	26369	5	—50.3	—44.8	—52.1	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan 1200 U.T	Surface	28	*988m.b.	*995m.b.	*982m.b.	28	32.5	40.0	23 0	28	4.9
	1000	28	81	150	28	—	—	—	—	—	—
	850	28	1510	1555	1460	28	20.4	28 0	8.4	8	— 3.2
	700	28	3148	3204	3069	28	8 9	13.3	4.0	28	—13.0
	600	28	4405	4464	4309	28	0.3	4.6	— 4.8	28	—21.1
	500	27	5840	5916	5739	27	— 9.4	— 5.5	—14.8	27	—30,2
	400	27	7525	7628	7415	27	—21.9	—17 6	—28.9	26	—39.8
	300	26	9584	9704	9428	26	—36.0	—31.2	—39 3	26	—51.3
	225	26	10831	10950	10678	26	—43 3	—38 7	—47.8	26	—58.0
	200	26	12306	12406	12178	26	—52.6	—47.4	—56 3	26	—65.4
	150	23	14125	14227	14010	23	—61.7	—54.9	—68.8	5	—72.4
	100	16	16600	16698	16509	16	—69.8	—65.5	—73 8	—	—
	70	14	18643	18830	18620	14	—70.1	—66.0	—75.6	—	—
	60	12	19630	19737	19533	12	—62.9	—63.3	—72.3	—	—
	50	11	20747	20854	20645	11	—62.4	—56.7	—69 5	—	—
	40	6	22198	22271	22119	6	—55.3	—53 3	—57.5	—	—
	30	5	24037	24122	23953	5	—53.9	—52.1	—56·7	—	—
	20	4	26666	26790	26261	4	—48.4	—43.7	—51.8	—	—
	10	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

Table B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE.

THE HIGHEST WIND SPEED IN THE UPPER AIR

MARCH—1969

	Station	Freezing level									First Tropopause									Highest wind speed			
		Mean			Highest			Lowest			Mean			Highest			Lowest						
		Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Direction (000–360)°	Speed in Knots
		(N)	(N)	(N)							(N)	(N)	(N)										
0000 U.T.	Mersa Matruh (A)	3266 (26)	686 (26)	-12.5 (23)	4270	606	-18.1	1860	805	-0.6	11165 (14)	230 (14)	-57.7 (14)	12450	189	-67.4	10250	258	-52.7	9150	304	290	150
	Helwan	3455 (31)	671 (31)	-12.7 (31)	4490	595	-15.5	1620	834	-0.0	11210 (28)	231 (28)	-56.2 (28)	16252	100	-69.8	8880	307	-49.5	12930	173	280	145
	Aswan . . . (A)	4296 (28)	606 (28)	-19.0 (28)	5030	556	-26.0	3690	650	-21.4	16485 (18)	104 (18)	-72·1 (18)	18940	66	-74.0	13400	170	-65.0	14220	155	266	163
											(N)	(N)	(N)										
1200 U.T.	Mersa Matruh (A)	3288 (23)	683 (23)	-12.7 (19)	4440	597	-9.9	1710	823	-2.0	11773 (13)	207 (13)	-57.2 (13)	13170	168	-65.1	10290	455	-51.9	12550	183	275	160
	Helwan	3494 (27)	669 (27)	-13.9 (27)	4360	605	-16.8	2000	800	-3.3	11514 (22)	222 (22)	-55.7 (22)	14780	130	-64.8	10240	265	-48.7	12700	184	280	157
	Aswan . . . (A)	4481 (28)	595 (28)	-21.3 (28)	5120	550	-23.5	3870	638	-14.2	12912 (15)	117 (15)	-69.4 (15)	18910	67	-76.6	12700	187	-58.3	11165	204	247	168

N = The Number of cases the element has been observed during the month.

Table B 3.—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

MERSA MATRUH (A)—MARCH 1969

Time	Ptessure Surface (Millibar)	Wind between ranges of direction (000—360)°																						Number of Calm winds	Total Number of Observations (T N)	Mean Scalar wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	5	11	1	12	0	—	0	—	3	12	1	9	1	18	2	6	1	8	5	8	4	11	2	8	1	26	10
	1000	4	16	0	—	2	8	0	—	5	18	0	—	1	25	1	11	0	—	5	12	3	16	2	16	0	23	15
	850	2	22	0	—	0	—	0	—	0	—	0	—	1	17	1	45	1	24	6	29	7	23	6	15	0	24	19
	700	0	—	0	—	0	—	0	—	0	—	0	—	1	43	1	26	5	44	6	36	8	32	2	26	0	23	35
	600	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	59	8	41	5	62	0	—	0	18	42
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	59	13	49	6	46	0	—	0	22	49
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	17	56	3	86	0	—	0	20	61
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	9	66	6	76	1	60	0	16	69
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	69	5	75	0	—	0	11	72
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	65	5	90	0	—	0	9	79
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	95	3	83	1	88	0	—	0	5	86
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	76	1	66	0	—	0	3	72
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	2	14	3	12	1	19	3	12	0	—	1	10	2	20	2	20	1	18	0	—	6	18	6	18	0	27	16
	1000	0	—	1	13	2	17	2	15	1	11	1	20	2	18	2	30	0	—	0	—	4	21	10	19	0	25	19
	850	1	15	0	—	0	—	1	19	0	—	0	—	1	18	2	36	2	14	8	26	7	27	3	20	0	25	24
	700	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	43	10	41	8	28	2	32	0	23	36
	600	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	45	9	50	5	38	2	36	0	20	44
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	70	13	53	4	40	1	46	0	19	51
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	40	1	102	10	64	7	61	0	—	0	19	64
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	66	6	94	5	85	1	52	0	14	84
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	76	6	88	4	119	1	59	0	12	95
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	62	3	120	2	98	1	73	0	7	99
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	82	1	104	0	—	0	3	89
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	67	0	—	0	—	0	1	67
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month,

TN = The total number of cases the wind has been observed for all dirictions during the month,

TABLE B 3 (*contd.*)—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALA WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

HELWAN—MARCH 1969

Time	Pressure Surface (Millibar)	Wind between ranges of direction (000—360)°																						Number of Calm winds	Total Number of observations (TN)	Mean Scalar wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U. T.	Surface	5	7	3	13	6	11	2	6	2	6	4	8	1	8	0	—	2	4	1	13	1	7	2	8	2	31	8
	1000	2	6	1	14	4	10	0	—	0	—	0	—	0	—	0	—	1	2	0	—	0	—	0	—	0	8	8
	850	1	19	0	—	0	—	0	—	0	—	0	—	2	42	5	30	7	31	9	23	3	27	4	23	0	31	27
	700	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	43	12	37	12	42	2	43	1	25	0	29	40
	600	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	14	52	10	39	1	60	1	61	0	26	48
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	73	11	49	2	63	0	—	0	20	59
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	63	5	40	1	75	0	—	0	11	54
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	71	1	99	0	—	0	5	76
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	82	1	101	0	—	0	4	88
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	83	0	—	0	—	0	2	83
	150	—	—	—	—	—	—	—	—	—	—	0	—	0	—	0	—	0	—	1	95	0	—	0	—	0	1	95
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U. T.	Surface	2	8	2	11	1	4	0	—	2	4	0	—	6	10	4	9	3	17	2	14	5	12	1	14	0	28	11
	1000	1	10	0	—	0	—	0	—	0	—	0	—	1	10	0	—	0	—	1	25	1	9	1	14	0	5	14
	850	1	16	0	—	0	—	0	—	0	—	0	—	1	15	8	21	6	29	4	21	4	15	2	12	0	26	21
	700	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	13	40	6	42	5	38	1	24	0	25	40
	600	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	9	42	7	46	5	51	0	—	0	21	46
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	31	4	60	10	61	3	53	0	—	0	18	58
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	60	6	77	1	53	0	—	0	12	68
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	99	3	66	2	62	0	—	0	6	70
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	111	1	72	1	38	0	—	0	4	83
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	122	1	105	0	—	0	—	0	2	114
	150	—	—	—	—	—	—	—	—	—	—	—	—	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observedduring the month,
TN = Total number of cases the wind has been observed for all directions during the month,

Table 3.(*contd*)—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SCLECTED PRESSURE SURFACES

ASWAN (A)—MARCH 1969

Time	Pressure Surface (Millibar)	Wind between ranges of direction (000—360)°																								Number of Calm winds	Total Number of Observations (T N)	Mean Scalar wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	11	8	4	5	2	6	4	7	0	—	0	—	1	12	0	—	0	—	0	—	2	10	5	12	0	29	9
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	5	8	4	13	5	10	1	15	1	3	0	—	0	—	0	—	3	20	5	12	2	18	2	9	0	28	12
	700	:	10	2	15	2	16	2	17	0	—	0	—	0	—	3	9	3	15	10	31	2	24	1	24	0	28	21
	600	1	29	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	19	20	28	3	14	2	18	0	28	25
	500	1	47	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	44	15	40	8	29	1	21	0	28	37
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	46	13	48	10	35	1	31	0	28	43
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	69	13	67	8	52	1	62	0	28	63
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	110	14	86	9	70	1	73	0	28	84
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	114	13	96	9	94	0	—	0	27	98
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	86	12	95	10	81	1	93	0	26	89
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	33	11	52	9	52	0	—	0	21	52
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	27	6	29	2	31	1	14	0	15	27
	60	0	—	0	—	0	—	2	21	0	—	0	—	0	—	1	12	3	25	4	15	3	20	0	—	0	13	19
	50	1	7	0	—	0	—	0	—	0	—	0	—	0	—	1	12	2	14	5	23	3	12	0	—	0	12	17
	40	0	—	0	—	0	—	0	—	1	14	1	22	—	—	1	10	1	7	6	16	0	—	0	—	0	10	15
	30	0	—	1	27	1	16	0	—	—	—	—	—	—	—	—	—	3	12	3	15	1	8	0	—	0	9	15
	20	0	—	0	—	1	40	1	23	0	—	0	—	1	10	0	—	0	0	0	—	1	10	0	—	0	4	21
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	9	11	2	5	1	4	1	10	3	7	5	9	1	9	1	3	1	2	3	11	0	—	1	3	0	28	8
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	3	7	1	16	2	12	4	8	1	7	1	5	2	4	0	—	5	7	4	14	2	18	3	10	0	28	10
	700	1	22	2	14	3	10	1	12	1	6	1	8	2	6	0	—	3	23	10	26	4	12	0	—	0	28	18
	600	0	—	2	12	2	4	0	—	1	15	0	—	1	13	0	—	3	31	11	38	5	13	3	18	0	28	25
	500	0	—	0	—	0	—	1	24	0	—	0	—	0	—	0	—	3	35	16	35	6	22	1	19	0	27	31
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	50	20	47	4	33	0	—	0	27	45
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	98	15	68	8	54	0	—	0	26	67
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	120	8	82	12	66	1	86	0	26	86
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	132	11	100	10	92	0	—	0	25	102
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	106	13	92	8	79	0	—	0	22	88
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	44	11	58	2	45	0	—	0	16	54
	70	0	—	0	—	0	—	0	—	0	—	0	—	1	13	0	—	2	28	2	18	2	28	0	—	1	7	23
	60	0	—	0	—	0	—	0	—	0	—	1	16	0	—	0	—	1	8	2	12	3	20	0	—	0	7	15
	50	0	—	0	—	0	—	1	4	0	—	0	—	0	—	1	19	1	9	2	18	1	12	0	—	0	6	13
	40	0	—	0	—	0	—	0	—	0	—	1	9	0	—	0	—	1	22	0	—	1	8	0	—	0	3	13
	30	0	—	0	—	0	—	0	—	1	12	0	—	0	—	1	14	1	20	0	—	0	—	0	—	0	3	15
	20	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	7	0	—	0	—	0	1	7
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the elemen thas been observed during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

REVIEW OF AGRO-METEOROLOGICAL STATIONS

EL KASR—MARCH 1969

This month was warmer and more rainy than normal. The month was mainly charazed by changeable weather with respect to air temperature. Six Khamsin heat waves of short duration were experienced on the 1st,(4th—5th), (15th—16th), 18th, 24th and (26th—28th) respectively. The last heat wave was the longest and yielded the highest maximum air temperature for the month (38.4 °C) on the 26th. The break down of the heat waves was followed by cold spells. The lowest maximum air temperature for the month (17.0 °C) was reported on the 23rd.

The extreme maximum soil temperatures were higher than the corresponding values of last March at all depths between 2 and 100 cms. and the differences ranged between 0.3 °C at 5 cms. and 1.2 °C at 20 cms. The extreme minmum soil temperatures were higher than the corresponding values of last March at all depths except at 20 and 100 cms. depths where the values were lower by 0.4 °Cand 0.2 °C respectively, the differences ranged between 1.7 °C at 5 cms. and 0.3 °C at 50 cms.

The daily mean Pan evaporation was 1.0 mm. less than the corresponding value of March 1968. The total actual duration of bright sunshine was 74.1 hours less than the corresponding value of March 1968.

TAHRIR—MARCH 1969

This month was warmer and more rainy than last March. The month was characterized by three pronounced khamsin heat waves during the periods : (1st—8th), (15th—18th) and (24th—31st). The last heat wave yielded the highest maximum air temperature for the month (39.2 °C) on the 26th. Two cold spells were experienced during the periods (9th—14th) and (19th—23rd). The second cold spell yielded the lowest maximum air temperature for the month (18.7 °C) on the 21st.

The extreme maximum soil temperatures were higher than the corresponding values of last March at all depths between 2 and 100 cms. and the differences ranged between 4.6 °C at 10 cms. and 1.8 °C at 100 cms. Theextreme minimum soil temperatures were also higher than the corresponding values of last March at all depths, and the differences ranged between 1.3 °C at 5 cms. and 0,1 °C at20 cms.

The daily mean Pan evaporation was 1.05 mm. more than the corresponding value of March 1968. The total actual duration of bright sunshine was 61.9 hours less the corresponding value of March 1968.

BAHTIM—MARCH 1969

This month was warmer and more rainy than last March. The month was characterized by three pronounced khamsin heat waves during the periods : (1st—7th), (15th—18th) and (25th—31st). The last heat wave yielded the highest maximum air temperature for the month (36.0 °C) on the 28th. Two cold spells occurred during the periods (8th—14th) and (19th—24th). The second cold spell yielded the lowest maximum air temperature for the month (19.3 °C) on the 19th.

The extreme maximum soil temperatures were higher than the corresponding values of last March at all depths between 2 and 100 cms. and the differences ranged between 0.9 °C at 2 cms. and 4.6 °C at 5 cms.

The extreme minimum soil temperatures were also higher than the corresponding values of last March at all depths and the differences ranged between 2.3 °C at 2 cms. and 0.3 °C at 10 cms.

The daily mean Pan evaporation was 0.83 mm. more than the corresponding value of March 1968. The total actual duration of bright sunshine was 35.3 hours less than the corresponding value of March 1968.

KHARGA—MARCH 1969

This month was warmer than normal and rainless. The month was characterized by three pronounced khamsin heat waves during the periods : (1st—9th), (16th—20th) and (25th—31st). The last heat wave yielded the highest maximum air temperature for the month (42.4 °C) on the 31st. Two cold spells occurred during the periods (10th—15th) and (21st—24th). The first cold spell yielded the lowest maximum air temperature for the month (24.4 °C) on the 14th.

The extreme maximum soil temperatures were higher than the corresponding values of last March at all depths between 2 and 100 cms. and the differences ranged between 8.2 °C at 2 cms. and 1.8 °C at 100 cms. The extreme minimum soil temperatures were also higher than the corresponding values of last March at all depths and the differences ranged between 3.1 °C at 2 cms. and 1.0 °C at 100 cms.

The daily mean Pan evaporation was 0.68 mm. more than the corresponding value of March 1968. The total actual duration of bright sunshine was 15.5 hours less than the corresponding value of March 1968.

Table C1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

MARCH—1969

STATION	Air Temperature (°C)					Mean Duration in hours of daily air temperature above the following values									
	Mean Max.	Mean Min.	Mean of the day	Night time mean	Day time mean	—5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C
El Kasr	22 3	11.7	16.7	14.7	18 8	24.0	24.0	24 0	23 1	15.2	2.8	1 3	0.6	0.2	0.0	0.0
Tanrir	26 3	11.6	18 2	15.1	21.3	24.0	24 0	24 0	22.6	16.1	7.5	3.4	1.1	0.4	0.0	0.0
Bahtim	26.2	9 9	17.9	14 4	21.3	24.0	24.0	24 0	21.4	15.2	7 9	3.6	1.1	0.0	0.0	0.0
Kharga	33.1	13 9	23 9	19 8	27.8	24.0	24.0	24.0	23 8	20.9	15 3	8.8	4.9	2 8	0.3	0.0

Table C 2.—ABSOLUTE VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS.

MARCH—1969

STATION	Max. Temp. at 1½ metres (°C)				Min. Temp. at 1½ metres (°C)				Min. Temp. at 5 cms. above (°C)			
	Highest		Lowest		Highest		Lowest		Dry soil		Grass	
	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date
El Kasr	38.4	26	17 0	23	15.4	3	8.2	12	4.3	14	—	—
Tahrir	39.2	26	18.7	21	16.1	25	5.9	12	3.7	12	—	—
Bahtim	36.0	28	19.3	19	15.4	25	2.6	12	0.2	12	—	—
Kharga.	42.4	31	24.4	11	23.6	30	7.4	16	6.2	16	—	—

Table C 3.—(SOLAR+SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL

MARCH—1969

STATION	(Solar+Sky) Radiation gm. cal./cm²	Duration of Bright Sunshine (hours)			Relative Humidity %				Vapour pressure (mms)						Evaporation(mms)		Rainfall (mms)		
		Total Actual monthly	Total Possible monthly	%	Mean of day	1200 U.T.	Lowest	Date	Mean of day	1200 U.T.	Highest	Date	Lowest	Date	Piche	Pan class A	Total Amount Monthly	Max. Fall in one day	Date
El Kasr	352.9	195.5	371.4	53	74	61	12	26	10.3	10.5	14.5	6	4.1	27	6.4	6.41	19.9	8.1	21
Tahrir	452.0	209.9	371.9	56	62	42	8	26	9.0	8.8	15.1	2	2.8	27	8.0	7.50	6.2	2.7	18
Bahtim	455.7	211.3	371.9	57	61	40	14	26	8.7	8.7	15.9	1	4.1	27	7.4	6.57	7.8	3.5	18
Kharga.	471.3	313.4	372.9	84	26	17	8	3,27, 28, 1	5.3	5.5	9.0	4	2.3	29	18.1	13.30	0.0	0.0	—

Table C 4.—EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS (cms) IN DIFFERENT FIELDS

MARCH — 1969

STATION	Highest (H) Lowest (L)	Extreme soil temperature (°C) in dry field at different depths (cms.)								Extreme soil temperature (°C) in grass field at different depths (cms)							
		2	5	10	20	50	100	200	300	2	5	10	20	50	100	200	300
El Kasr . . .	H	31.3	27.6	24.6	21.4	20.0	19.3	23.4	—	—	—	—	—	—	—	—	—
	L	11.1	11.1	11.8	13.8	16.7	17.4	23.0	—	—	—	—	—	—	—	—	—
Tahrir	H	43.5	36.5	32.8	28.1	23.7	21.3	20.8	21.5	—	—	—	—	—	—	—	—
	L	12.3	12.3	12.4	14.9	17.6	19.2	19.8	20.9	—	—	—	—	—	—	—	—
Bahtim . . .	H	39.3	33.4	28.2	24.6	22.4	21.4	21.9	23.0	—	—	—	—	—	—	—	—
	L	12.4	12.4	14.9	18.0	19.9	20.2	21.7	22.5	—	—	—	—	—	—	—	—
Kharga . . .	H	49.8	42.1	35.6	30.8	27.9	25.8	25.7	26.6	—	—	—	—	—	—	—	—
	L	11,3	14.2	18.2	21.5	24.1	23.5	24.5	26.4	—	—	—	—	—	—	—	—

Table C 5. SURFACE WIND

MARCH — 1969

STATION	Wind Speed m/sec at 1½ metres			Days with surface wind speed at 10 metres							Max. Gust (knots) at 10 metres	
	Mean of the day	Night time mean	Day time mean	≥10 knots	≥15 konts	≥20 knots	≥25 knots	≥30 knots	≥35 knots	≥40 knots	value	Date
El Kasr . . .	2.5	2.1	2.9	—	—	—	—	—	—	—	—	—
Tahrir	2.9	2.1	3.7	31	22	15	9	6	2	0	45	17.19
Bahtim	3.0	2.3	3.7	31	19	12	8	3	0	0	43	17
Kharga . . .	3.2	2.5	4.0	28	19	16	7	1	0	0	35	17.20

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UNITED ARAB REPUBLIC

MONTHLY WEATHER REPORT

VOLUME 12 NUMBER 4

APRIL, 1969

U.D.C. 551. 506,1 (62)

METEOROLOGICAL DEPARTMENT
CAIRO

PUBLICATIONS OF THE METEOROLOGICAL DEPARTMENT OF THE UNITED ARAB REPUBLIC—CAIRO

In fulfilment of its duties, the U.A.R. Meteorological Department issues several reports and publications on weather, climate and agrometeorology. The principal publications are described on this page.

Orders for publications should be adressed to :
"The Director General, Meteorological Department, Kubri-el-Qubbeh — CAIRO".

THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Department since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968 this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for U.A.R.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of the U.A.R. as well as monthly values of certain elements.

THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in march 1968 which brings normals and mean values up till 1960.

METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff of "The Meteorological Institute for Research and Training" and the Operational Divisions of Meteorological Department.

TECHNICAL NOTES

As from October 1970, the Meteorological Department started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

The first Technical Note I was issued in October 1970 on : Sandstorms & Duststorms in the U.A.R.

UNITED ARAB REPUBLIC

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METEOROLOGICAL DEPARTMENT
CAIRO

CONTENTS

Note : **For explanatory notes on tables please refer to volume 9 number 1 (January 1965).**

GENERAL SUMMARY OF WEATHER CONDITIONS

APRIL 1969

Moderately changeable intervened with four short khamsin heat waves light rainy during the second third of the month. Frequent rising sand over the southern parts.

GENERAL DESCRIPTION OF WEATHER

The prevailing weather most days of this ıonth was rather cold in the northern parts, ıild in the central parts and rather hot in ıe southern parts. The month was intervened by four short khamsin heat waves round ıe 9th, 15th, 20th and 24th. These heat ıaves were of light intensity, apart from the ırst heat wave which was pronounced over Jpper Egypt area in particular.

Light rain was reported over scattered parts ı the Republic during the period (10th — 7th).

Rising sand occurred during many days of he month over scattered places in the Western Desert, Upper Egypt and Red Sea districts.

PRESSURE DISTRIBUTION

The most outstanding features of pressure listribution over the synoptic surface maps uring this month were :

— The Siberian anticyclone.

— The Atlantic anticyclone and its southast extension through the Mediterranean nd North Africa.

— Deep low pressure systems through North Europe, followed sometimes by local nticyclones.

— Secondary depressions through the Mediterranean and its vicinities, and khamsin secondaries near the coast of North Africa.

During this month, five khamsin secondaries generally of weak intensity were distinguished, four of which traversed the northern parts of the Country.

The first and second khamsin depressions developed over North Algiers on the 1st and 4th respectively. The first depression moved quickly eastwards passing through northern parts of U.A.R. on the 3rd ; whereas the second depression remained quasistationary till the 6th, then it moved slowly near the coast of North Africa and passed through northern parts of U.A.R. on the 9th.

On the 13th a depression developed over North Italy and a khamsin secondary near the Gulf of Cyranica. The two depressions proceeded eastwards forming one system on the 15th over Greece, East Mediterranean and Asia Minor, which traversed these areas on the 16th and continued its track afterwards to the northeast while amalgamating and filling.

The fourth khamsin depression originated near Tunisia on the 20th, proceeded along the coast of North Africa and passed through north of U.A.R. on the 24th.

The fifth and last khamsin depression during this month originated on the 26th over North Algiers. It remained quasistationary till the 27th, then it moved slowly northeastwards reaching west of Italy on the 30th, when a desert secondary developed south of Gulf of Serte.

The passage of the above mentioned khamsin secondaries through the country was followed by the establishment of high pressure over East Mediterranean and NE Africa. Accordingly the barometric pressure over the country showed five oscillations of moderate amplitudes, with their maxima round the 2nd, 5th, 13th 19th, 26th and their minima round the 4th, 9th, 16th, 24 and 29th.

The most important pressure systems over the synoptic upper air charts during this month were :

— Deep upper lows over North Russia and North Atlantic.

— Secondary upper troughs or lows through the middle latitudes, passing through East Mediterranean and north of U.A.R. on the 1st, 5th, 12th, 17th, 21st and 29th respectively.

SURFACE WIND

The prevailing winds during this month blew generally from directions between NW, NE and changed to SWly by the passage of khamsin depressions. Winds were light to moderate in general ; they became fresh to strong during several days mainly over the Mediterranean and Red Sea districts.

Gales were reported at Aswan on the 1st, 9th, 12th and 15th, and at Hurghada on the 1st and 12th.

Cairo, April 1971

TEMPERATURE

Maximum air temperature was below normal most days of this month, and the departures from normal were moderate in general and rather large on few days. During the short khamsin periods, maximum air temperature was above normal and the departures were slight to moderate. Maximum air temperature values ranged generally between 18 °C & 23 °C in the northern parts, between 24 °C & 30 °C in the middle parts and between 30 °C & 38 °C in the southern parts.

The absolute maximum air temperature was 43.6 °C recorded at Aswan on the 9th.

Minimum air temperature fluctuations were not regular, it oscillated round normal and the departures were slight to moderate in general. Minimum air temperature values ranged generally between 8 °C & 15 °C in the northern and middle parts and between 14°C and 18°C in the southern parts.

The absolute minimum air temperature was 5.5 °C recorded at Beni Suef on the 3rd.

PRECIPITATION

A rainy period was distinguished from the 10th till the 17th over scattered parts in the Republic. Rain was generally light, but it was locally heavy over Sallum on the 14th when the daily rainfall reached 27.0 mm. reporting a record for April.

The monthly rainfall showed variant small departures from normal. In general, it was below normal in the northern parts and above normal in the central and southern parts.

The highest daily rainfall was 27.0 mm. recorded at Sallum on the 14th.

The highest monthly rainfall was 32.4 mm. recorded at Sallum.

M. F. TAHA
Under Secretary of State
Director General
Meteorological Department

Table A 1. — MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION.

APRIL 1969

STATION	Atmospheric Pressure (mbs) M.S.L		Air Temperature °C								Relative Humidity %		Bright Sunshine Duration (Hours)			Piche Evap. (mms) Mean
			Maximum		Minimum		$\frac{A+B}{2}$	Dry Bulb		Wet Bulb						
	Mean	D.F. Normal or Average	(A) Mean	D.F. Normal or Average	(B) Mean	D.F. Normal or Average		Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Total Actual	Total Possible	%	
Sallum	1015.2	+1.8	20.9	—2.8	13.7	+0.2	17.3	16.9	—2.0	13.0	—0.8	62	+ 6	—	—	—	10.0
Mersa Matruh (A)	1015.5	+4.1	20.3	—2.4	11.9	—0.1	16.1	16.1	—1.2	13.2	—0.2	70	+ 6	—	—	—	5.8
Alexandria (A)	1015.3	+1.2	22.6	—1.2	13.0	— 0.4	17.8	17.2	—1.0	13.5	—1.1	63	— 3	279.8	388.8	72	6.9
Port Said (A)	1014.2	+0.5	21.1	—1.4	15.0	—1.8	18.0	17.6	—1.2	14.5	—1.0	69	— 1	271.8	388.2	70	6.7
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1014.7	+2.0	25.4	—2.4	11 2	+0.4	18.3	17.5	—1.2	12.9	—1.0	56	+ 2	292.2	387.8	75	5.6
Cairo (A)	1014.1	+0.7	26.1	—2.1	13.4	—0.6	19 8	19 4	—1.5	13 3	—1.2	46	0	—	—	—	16 4
Fayoum	—	—	27.9	—1.8	12.6	—0.6	20.2	20.2	—1.1	13.8	—0.3	45	+ 5	—	—	—	7 0
Minya (A)	1013.7	+0.9	27.9	—2.7	12.3	+0.4	20.0	20.3	—0.9	13.5	—0.4	42	+ 1	264.2	285.1	69	11.6
Assyout (A)	1013.6	+1.5	28.5	—3.3	14.3	— 0.6	21.4	21.3	—2.5	13.6	+0.3	37	+13	—	—		15.7
Luxor (A)	1011.6	+1.1	33.1	—1 5	15.9	+0.3	24.5	24.4	—1.4	15.0	—0.1	31	+ 5	—	—	—	9.3
Aswan (A)	1010.9	+1.2	34.0	—1.1	18.0	+0.3	24.9	25.9	—0.9	13.7	+0.4	18	+ 6	—	—	—	24.0
Siwa	1013.8	+0.4	26.8	—3.0	13 1	+0.9	20.0	20.0	+1.6	12.9	—0.2	39	+ 7	—	—	—	13.0
Bahariya	1013.7	+1.3	27.6	—2.4	13.3	+0.5	20 4	20.4	—2.0	12.6	—0.7	34	+ 5	—	—	—	9.7
Farafra	1015.0	+1.1	27.9	—3.3	12.7	—0.6	20.3	20.2	—2.5	12.9	+0.3	38	+15	—	—	—	16.4
Dakhla	1013.7	+2.5	30 1	—2.7	13.4	—0.6	21.8	22.5	—1.4	12.7	+0.1	27	+ 9	—	—	—	16.6
Kharga	1012.6	+1.3	31.3	—2.0	16.6	+1.1	24.0	23.6	—1.2	13.1	—0.5	23	0	265.4	382.8	69	18.3
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	1011.5	+0.6	25.3	—1.0	16.7	+0.5	21.0	21.9	—0.4	16.3	+0.6	53	+ 6	—	—	—	15.1
Quseir	1011.6	+1.0	26.0	—1.2	19.3	—0.2	22.6	22.8	—0.7	16.7	+0.1	52	+ 6	—	—	—	14.7

Table A2.— MAXIMUM AND MINIMUM AIR TEMPERATURES

APRIL — 1969

Station	Maximum Temperature °C									Grass Min. Temp.		Minimum Temperature °C							
	Highest	Date	Lowest	Date	No. of Days with Max-Temp.					Mean	D. From Normal	Highest	Date	Lowest	Date	No. of Days with Min. Temp.			
					>25	>30	>35	>40	>45							<10	<5	<0	<-5
Sallum	29.4	19,30	16.4	14	4	0	0	0	0	13.3	—	16.9	23	10.1	3	0	0	0	0
Mersa Matruh (A)	29.7	30	17.2	11	3	0	0	0	0	—	—	15.1	27	9.2	22	3	0	0	0
Alexandria (A)	33.1	24	18.4	1	7	1	0	0	0	13.3	—	16.4	24	8.4	18	1	0	0	0
Port Said (A)	26.0	24	18.2	12	20	0	0	0	0	14 1	—	17.4	24	12.5	17	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	32.6	24	19.6	12	17	3	0	0	0	—	—	15.2	24	9.0	5,18	7	0	0	0
Cairo (A)	33.3	24	19.9	1	18	5	0	0	0	—	—	18.8	24	9.8	4,13	2	0	0	0
Fayoum	34.5	24	21.6	1	24	7	0	0	0	10.9	—	17.2	15	6.9	2	5	0	0	0
Minya (A)	35.0	9	21.8	1	22	9	0	0	0	10.6	—	20.0	9	7.0	18	7	0	0	0
Assyout (A)	37.8	9	22.0	1.12	22	11	2	0	0	12 5	—	20.5	24	9.0	2	2	0	0	0
Luxor (A)	41.6	9	23.0	16	29	24	10	1	0	13.3	—	23.0	15	9.3	25	2	0	0	0
Aswan (A)	43.6	9	26 2	17	30	25	13	1	0	—	—	25.0	10	11.7	18	0	0	0	0
Siwa	35.0	3	17.9	2	20	8	0	0	0	11.5	—	18.7	8	9.5	1	4	0	0	0
Bahariya	34.2	30	21.0	1	21	8	0	0	0	12.4	—	20.3	9,24	8.4	2	5	0	0	0
Farafra	35.6	30	21.2	2	23	10	5	0	0	11.9	—	21.4	9	5.9	18	5	0	0	0
Dakhla	39.3	9	23 1	1	26	15	4	0	0	—	—	22.2	9	5.8	2	7	0	0	0
Kharga	42.2	9	22.8	16	27	18	5	1	0	14.7	—	23.2	9	9.2	16	2	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	31.1	25	22.1	12	19	1	0	0	0	—	—	21.6	9	12.5	5	0	0	0	0
Quseir	31.5	25	21.5	2	19	2	0	0	0	17.5	—	23.5	15	15.0	17	0	0	0	0

Table A 3. SKY COVER AND RAINFALL

APRIL — 1969

Station	Mean Sky Cover Oct.					Rainfall mms.										
	00 U.T.	06 U.T.	12 U.T.	18 U.T	Daily Mean	Total Amount	D. From Normal	Max. Fall in one day		Number of Days with Amount of Rain						
								Amount	Date	<0.1	≥0.1	≥1.0	≥5.0	≥10	≥25	≥50
Sallum (A)	3.9	4.1	4.0	3.4	3.8	32.4	+31.3	27.0	14	0	5	4	1	1	1	0
Mersa Matruh (A)	3.2	4.6	4.5	4.1	4.0	2.2	— 0.3	1.8	14	0	3	1	0	0	0	0
Alexandria (A)	4.6	4.8	4.9	4.4	4.6	0.1	— 3.0	0.1	16	1	1	0	0	0	0	0
Port Said (A)	—	3.9	3.0	—	—	1.0	— 2.1	0.5	14.16	0	2	0	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	0.9	2.8	3.1	1.4	2.2	1.1	- 1.0	1.1	15	0	1	1	0	0	0	0
Cairo (A)	2.8	3.9	3.4	2.8	3.3	1.1	+ 0.3	0.7	11	1	2	0	0	0	0	0
Fayoum	—	3.7	3.5	2.6	—	Tr	— 0.7	Tr.	11,15	2	0	0	0	0	0	0
Minya (A)	2.6	3.2	3.1	2.7	2.8	2.0	+ 1.6	1.0	11	3	2	2	0	0	0	0
Assyout (A)	2.2	2.4	2.9	2.4	2.5	3.5	+ 3.5	2.5	14	2	2	2	0	0	0	0
Luxor (A)	2.0	2.4	3.2	2.7	2.5	Tr	+ Tr.	Tr.	12.13.14	3	0	0	0	0	0	0
Aswan	1.2	1.9	2.0	2.0	1.9	Tr	0.0	Tr.	16	1	0	0	0	0	0	9
Siwa	2.4	3.0	3.7	2.3	2.9	2.8	+ 1.9	1.3	2,11	2	3	2	0	0	0	0
Bahariya	2.2	3.3	3.0	2.3	2.8	Tr.	— 0.5	Tr.	11·14·15 *	4	0	0	0	0	0	0
Farafra	—	3.0	3.3	2.4	—	6,2	+ 6.1	4.7	11	0	3	2	0	0	0	0
Dakhla	0.9	1.7	2.3	2.0	1.2	5.9	+ 5.9	4.9	15	0	2	2	0	0	0	0
Kharga	1.2	2.4	2.9	2.3	2.1	2.3	+ 2.3	1.5	15	0	8	1	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	1.8	2.6	3.4	2.4	2.6	3.3	+ 3.3	2.7	15	3	3	1	0	0	0	0
Quseir	2.1	2.7	2.5	2.9	5.6	0.6	+ 0.5	0.6	16	4	1	0	0	0	0	0

* more than three days.

Table A 4. — DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA.

APRIL 1969

Station	Precipitation				Frost	Thunderstorm	Mist Vis ≥1000 metres	Fog Vis <1000 Metres	Haze Vis ≥1000 Metres	Thick Haze Vis <1000 Metres	Dust or Sanderising Vis ≥1000 Metres	Dust or Sandstorm Vis <1000 Metres	Gale	Clear Sky	Cloudy Sky
	Rain	Snow	Ice, Pellets	Hail											
Sallum	5	0	0	0	0	0	0	0	0	0	3	0	0	7	2
Mersa Matruh (A)	3	0	0	0	0	0	2	0	1	0	2	0	0	4	3
Alexandria (A)	1	0	0	0	0	0	0	0	2	0	4	0	0	3	4
Port Said (A)	2	0	0	0	0	0	0	0	0	0	0	0	0	—	—
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1	0	0	0	0	0	0	0	0	0	0	0	0	15	0
Cairo (A)	2	0	0	0	0	0	4	1	6	0	5	0	0	8	2
Fayoum	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
Minya (A)	2	0	0	0	0	0	0	0	2	0	6	0	0	15	0
Assyout (A)	2	0	0	0	0	0	1	0	3	0	5	0	0	15	0
Luxor (A)	0	0	0	0	0	0	1	0	12	0	3	0	0	15	0
Aswan (A)	0	0	0	0	0	0	0	0	0	0	12	9	4	19	0
Siwa	3	0	0	0	0	0	0	0	1	0	3	0	0	13	4
Bahariya	0	0	0	0	0	0	0	0	0	0	2	0	0	16	4
Farafra	3	0	0	0	0	0	0	0	0	0	4	0	0	—	—
Dakhla	2	0	0	0	0	0	0	0	1	0	1	0	0	18	1
Kharga	3	0	0	0	0	0	0	0	0	0	11	0	0	16	3
Tor	—	—	—	—	—	0	—	—	—	—	—	—	—	—	—
Hurghada	3	0	0	0	0	0	0	0	5	0	15	0	2	13	2
Quseir	1	0	0	0	0	0	0	0	2	0	2	0	0	22	0

Table A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

APRIL — 1969

Station	calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	All directions
Sallum	4	0	0	1-10	46	50	175	69	65	22	9	8	13	10	26	68	561
				11-27	7	5	21	12	1	0	2	0	9	19	30	48	154
				28-47	0	0	0	0	0	0	0	0	0	0	1	0	1
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**53**	**55**	**196**	**81**	**66**	**22**	**11**	**8**	**22**	**29**	**57**	**116**	**716**
Meras Matruh (A)	1	0	0	1-10	47	39	25	26	44	26	10	11	9	23	5	23	288
				11-27	137	52	40	14	40	10	7	5	14	17	15	72	423
				28-47	0	0	0	0	0	0	0	0	0	4	1	3	8
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**184**	**91**	**65**	**40**	**84**	**36**	**17**	**16**	**23**	**44**	**21**	**98**	**719**
Alexandria (A)	0	1	0	1-10	55	74	43	27	31	22	6	5	7	29	86	139	524
				11-27	33	13	4	1	0	3	1	10	33	9	38	50	195
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**88**	**87**	**47**	**28**	**31**	**25**	**7**	**15**	**40**	**38**	**124**	**189**	**719**
Port Said (A)	1	0	0	1-10	57	51	26	10	4	4	10	10	20	10	34	55	291
				11-27	48	55	62	25	4	0	1	5	21	48	80	77	426
				28-47	0	0	0	0	0	0	0	0	0	2	0	0	2
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**105**	**106**	**88**	**35**	**8**	**4**	**11**	**15**	**41**	**60**	**114**	**132**	**719**
Tanta	21	0	0	1-10	102	57	49	22	14	9	14	53	72	89	76	87	644
				11-27	5	3	3	0	0	0	0	6	8	11	14	5	55
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**107**	**60**	**52**	**22**	**14**	**9**	**14**	**59**	**80**	**100**	**90**	**92**	**699**
Cairo (A)	33	0	2	1-10	71	105	77	46	9	3	12	9	11	30	35	76	484
				11-27	31	35	39	12	8	0	2	13	10	17	12	22	201
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**102**	**140**	**116**	**58**	**17**	**3**	**14**	**22**	**21**	**47**	**47**	**98**	**685**
Fayoum	8	9	0	1-10	263	205	32	8	9	6	11	18	36	28	23	41	680
				11-27	0	3	1	0	0	0	1	2	6	9	0	1	23
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**263**	**208**	**33**	**8**	**9**	**6**	**12**	**20**	**42**	**37**	**23**	**42**	**703**
Minya (A)	37	8	0	1-10	245	35	11	4	4	14	16	8	16	18	28	69	468
				11-27	166	9	1	0	0	0	1	3	1	4	14	8	207
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**411**	**44**	**12**	**4**	**4**	**14**	**17**	**11**	**17**	**22**	**42**	**77**	**675**

Table A 5 (*contd.*)—NUMBER IN HOURS OF OCCURRENCE OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

APRIL — 1969

Station	calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												All directions
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	
				1-10	31	11	7	20	19	3	13	7	29	174	144	91	549
				11-27	19	8	0	1	1	0	2	4	8	9	38	80	170
Asyout . . . . . (A)	1	0	0	28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**50**	**19**	**7**	**21**	**20**	**3**	**15**	**11**	**37**	**183**	**182**	**171**	**719**
				1-10	47	26	11	26	18	66	73	45	42	89	142	63	648
				11-27	0	0	0	0	0	1	1	1	3	6	52	7	71
Luxor . . . . . (A)	0	1	0	28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**47**	**26**	**11**	**26**	**18**	**67**	**74**	**46**	**45**	**95**	**194**	**70**	**719**
				1-10	187	61	11	2	6	4	6	1	2	10	9	75	374
				11-27	218	53	0	0	0	0	2	1	2	2	5	58	341
Aswan . . . . . (A)	1	2	2	28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**405**	**114**	**11**	**2**	**6**	**4**	**8**	**2**	**4**	**12**	**14**	**133**	**715**
				1-10	20	48	78	108	77	33	15	11	13	44	36	29	512
				11-27	4	9	34	28	29	19	4	0	0	9	45	16	197
Siwa	4	0	7	28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**24**	**57**	**112**	**136**	**106**	**52**	**19**	**11**	**13**	**53**	**81**	**45**	**709**
				1-10	29	29	44	35	38	26	43	22	31	91	97	112	597
				11-27	20	10	2	0	0	0	0	0	0	2	21	62	117
Dakhla	5	1	0	28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**49**	**39**	**46**	**35**	**38**	**26**	**43**	**22**	**31**	**93**	**118**	**174**	**714**
				1-10	118	58	15	5	3	5	4	4	6	14	31	137	400
				11-27	193	13	0	0	0	0	0	0	1	0	14	87	308
Kharga	4	3	5	28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**311**	**71**	**15**	**5**	**3**	**5**	**4**	**4**	**7**	**14**	**45**	**224**	**708**
				1-10	21	45	17	6	14	23	18	0	1	3	18	65	231
				11-27	190	24	1	2	5	3	2	0	0	0	34	164	425
Hurghada	15	0	8	28-47	27	0	0	0	0	0	0	0	0	0	0	14	41
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**238**	**69**	**18**	**8**	**19**	**26**	**20**	**0**	**1**	**3**	**52**	**243**	**697**
				1—10	23	14	15	25	29	15	10	22	99	93	85	46	476
				11—27	0	0	0	0	0	0	0	2	2	58	157	13	232
Quseir	4	1	3	28—47	0	0	0	0	0	0	0	0	0	2	2	0	4
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**23**	**14**	**15**	**35**	**29**	**15**	**10**	**24**	**101**	**153**	**244**	**59**	**712**

UPPER AIR CLIMATOLOGICAL DATA

Table B1 —MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

APRIL—1969

Station	Pressure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh 0000 U.T.	Surface	27	*1011m.b.	*1017m.b.	*1004m.b.	27	15.2	17.0	13.0	27	10.2
	1000	27	124	173	62	27	14.7	20.5	12.4	27	10.2
	850	27	1486	1534	1414	27	8.6	17.1	2.2	27	— 2.0
	700	26	3073	3128	2998	26	1.7	5.4	— 2.7	26	—12.6
	600	24	4299	4368	4204	24	— 6.0	— 2.2	—11.4	23	—21.2
	500	23	5699	5765	5590	23	—15.8	—12.1	—18.9	22	—29.6
	400	22	7345	7430	7219	22	—27.3	—23.7	—30.9	22	—40.1
	300	19	9350	9473	9205	19	—41.9	—37.0	—46.5	18	—52.5
	250	16	10567	10709	10410	16	—49.6	—45.2	—54.1	15	—60.3
	200	15	12017	12179	11873	15	—54.5	—48.7	—61.8	9	—62.3
	150	13	13857	14005	13748	13	—57.5	—49.3	—62.6	3	—65.0
	100	8	16375	16486	16262	8	—64.0	—60.0	—70.6	1	—72.4
	70	4	18562	18600	18500	4	—62.8	—59.1	—66.7	—	—
	60	4	19516	19578	19443	4	—60.4	—58.5	—62.3	—	—
	50	4	20653	20720	20577	4	—60.7	—60.0	—62.3	—	—
	40	3	22034	22110	21962	3	—62.0	—61.3	—63.2	—	—
	30	1	23829	—	—	1	—55.7	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 0000 U.T.	Surface	27	*997m.b.	*1002m.b.	*993m.b.	27	15.3	20.7	11.0	27	7.4
	1000	27	118	157	68	7	14.9	19.3	11.0	7	6.0
	850	27	1487	1546	1431	27	10.4	18.2	2.0	27	— 3.1
	700	27	3082	3134	3008	27	2.8	7.8	— 4.8	26	—13.9
	600	27	4313	4369	4205	27	— 4.4	— 0.8	—11.9	27	—18.6
	500	26	5724	5794	5584	26	—14.3	—10.3	—17.7	26	—25.5
	400	26	7378	7472	7212	26	—25.9	—19.8	—30.6	26	—37.4
	300	25	9395	9526	9218	25	—40.7	—31.1	—46.7	25	—49.8
	250	25	10615	10762	10447	25	—49.3	—43.8	—54.2	25	—66.9
	200	25	11976	12224	11929	25	—54.1	—46.6	—63.1	18	—62.4
	150	22	13896	14063	13780	22	—57.6	—52.4	—64.1	14	—66.8
	100	22	16404	16540	16289	20	—66.2	—59.9	—74.7	—	—
	70	18	18554	18660	18450	18	—65.8	—61.3	—71.1	—	—
	60	18	19488	19588	19345	18	—64.3	—57.0	—70.8	—	—
	50	15	20615	20726	20513	15	—63.0	—59.0	—65.8	—	—
	40	14	21996	22107	21883	14	—61.4	—58.3	—64.4	—	—
	30	13	23775	23917	23681	13	—58.3	—56.4	—60.0	—	—
	20	8	26379	26494	26293	8	—53.0	—50.1	—54.3	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan 0000 U.T.	Surface	29	*988m.b.	*993m.b.	*981m.b.	29	21.9	28.5	15.0	29	1.8
	1000	29	89	142	26	—	—	—	—	—	—
	850	29	1496	1526	1462	29	18.9	27.0	7.8	29	— 3.1
	700	29	3132	3181	3078	29	8.7	13.9	4.7	29	— 9.5
	600	29	4389	4452	4320	29	0.3	5.1	— 3.5	29	—16.2
	500	29	5826	5895	5744	29	— 9.1	— 5.4	—15.1	29	—24.0
	400	29	7579	7611	7385	29	—21.2	—17.9	—28.5	28	—33.0
	300	27	9579	9698	9397	27	—35.9	—30.4	—41.0	26	—47.2
	250	24	10825	10968	10629	24	—44.2	—39.7	—48.8	23	—55.4
	200	24	12300	12460	12093	24	—51.9	—48.2	—58.2	22	—62.8
	150	22	14133	14290	13972	22	—61.0	—56.3	—68.8	4	—69.2
	100	21	16584	16689	16488	21	—73.0	—62.0	—79.1	—	—
	70	16	18674	18780	18428	16	—72.2	—66.8	—76.0	—	—
	60	13	19604	19697	19499	13	—67.1	—63.6	—71.2	—	—
	50	13	20718	20809	20602	13	—63.7	—60.4	—67.8	—	—
	40	9	22080	22159	22030	9	—60.0	—57.4	—62.8	—	—
	30	8	23892	23980	23756	8	—55.8	—53.1	—59.0	—	—
	20	5	26522	26617	26452	5	—48.6	—47.4	—50.0	—	—
	10	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

Table B 3. NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

MERSA MATRUH (A) APRIL 1969

Time	Pressure Surface (Millibar)	Wind between ranges of direction (000–360)°																								Number of Calm winds	Total Number of Observations (T N)	Mean Scalar wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	8	10	3	9	0	—	0	—	2	9	4	7	4	8	0	—	0	—	0	—	2	12	3	13	1	27	9
	1000	6	14	4	7	0	—	1	10	5	13	1	13	1	13	6	—	2	14	0	—	3	19	4	19	0	27	14
	850	5	17	3	11	0	—	0	—	1	9	0	—	1	9	3	13	1	40	3	20	6	19	3	23	0	26	18
	700	2	23	0	—	0	—	0	—	0	—	0	—	0	—	1	28	3	28	7	29	6	24	5	18	0	24	25
	600	1	21	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	32	11	40	4	28	4	28	0	22	34
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	33	11	52	6	34	3	36	0	21	43
	400	1	28	0	—	0	—	0	—	0	—	0	—	0	—	1	39	2	96	6	57	7	60	2	50	0	19	59
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	33	1	114	4	106	7	81	0	—	0	13	88
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	40	0	—	6	101	3	83	0	—	0	10	90
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	38	1	143	4	76	1	79	0	—	0	7	81
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	41	2	52	2	50	0	—	0	5	49
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	44	1	20	1	13	0	—	0	4	30
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	31	0	—	0	—	1	6	0	2	18
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	—	1	5	0	—	1	12	0	—	0	2	8
	50	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	21	0	—	0	—	1	3	0	2	12
	40	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	28	0	—	0	—	1	12	0	2	20
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	10	14	5	12	2	9	1	12	1	15	0	—	0	—	0	—	0	—	2	19	4	20	3	14	0	28	14
	1000	6	17	0	12	2	13	1	13	1	14	0	—	0	—	0	—	0	—	1	13	5	22	3	18	0	28	16
	850	4	9	2	10	1	12	1	7	0	—	1	9	0	—	2	36	4	16	7	18	2	16	4	14	0	28	16
	700	2	8	0	—	0	—	0	—	0	—	0	—	0	—	1	19	2	39	9	29	8	24	4	23	0	26	26
	600	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	27	1	70	8	39	10	34	3	21	0	23	35
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	41	10	54	5	40	1	60	0	19	48
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	—	2	62	10	79	6	54	0	—	0	18	65
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	68	9	90	3	70	1	137	0	14	88
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	79	9	101	2	35	0	—	0	12	88
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	60	7	88	1	64	0	—	0	9	82
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	82	4	66	2	36	0	—	0	7	60
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	63	4	44	1	47	0	—	0	6	48
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	10	1	20	1	55	1	31	0	—	0	4	29
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	6	1	20	1	40	0	—	0	—	0	3	22
	50	0	—	0	—	0	—	0	—	0	—	0	—	1	5	0	—	1	24	1	47	0	—	0	—	0	3	25
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month,

TN = The total number of cases the wind has been observed for all directions during the month

Table B 3 (contd.)—**NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALA WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.**

HELWAN—APRIL 1969

Time	Pressure Surface (Millibar)	Wind between ranges of direction (000—360)°																						Number of Calm winds	Total Number of observations (TN)	Mean Scalar wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U. T.	Surface	9	6	2	6	9	11	2	—	0	—	0	—	0	—	1	6	0	—	0	—	2	0	2	8	2	27	8
	1000	2	6	0	—	3	11	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	11	1	7	8
	850	2	14	0	—	1	7	0	—	0	—	0	—	1	4	0	—	5	25	7	22	4	11	7	16	0	27	18
	700	1	26	0	—	0	—	0	—	0	—	0	—	0	—	6	18	5	30	11	40	3	29	1	57	0	27	32
	600	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	36	7	36	8	32	4	52	0	—	0	23	37
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	34	8	53	5	40	5	60	0	—	0	20	49
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	34	3	47	4	65	3	52	0	—	0	13	51
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	43	3	91	1	38	3	60	0	—	0	10	62
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	61	1	55	5	57	0	—	0	—	0	9	58
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	78	1	82	5	70	0	—	0	—	0	9	74
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	50	3	78	0	—	0	—	0	—	0	5	67
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	32	2	68	0	—	0	—	0	—	0	3	56
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U. T.	Surface	5	10	2	11	1	9	2	6	0	—	0	—	2	4	2	4	1	4	1	20	5	13	6	8	0	27	9
	1000	1	10	1	12	0	—	0	—	0	—	0	—	1	6	0	—	1	9	0	—	0	—	0	—	0	4	9
	850	5	10	2	10	2	10	0	—	1	8	0	—	2	6	1	22	4	26	1	13	4	16	4	12	1	27	13
	700	0	—	1	6	0	—	0	—	0	—	0	—	1	30	3	30	4	15	11	35	3	16	2	32	0	25	27
	600	0	—	1	2	0	—	0	—	0	—	0	—	0	—	4	21	7	33	8	47	3	51	0	—	0	23	37
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	27	4	26	7	74	7	52	0	—	0	21	25
	400	0	—	0	—	0	—	0	—	0	—	0	—	1	46	1	46	5	56	4	75	4	76	1	16	0	16	60
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	59	3	50	3	71	1	67	0	—	0	9	61
	250	0	—	0	—	0	—	0	—	0	—	0	—	1	93	1	73	3	61	1	89	1	84	0	—	0	7	75
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	90	4	66	1	101	1	50	0	—	0	7	72
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	132	2	86	0	—	0	—	0	4	109
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	33	0	—	0	—	0	1	33
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

TN = Total number of cases the wind has been observed for all directions during the month.

BAHTIM—APRIL 1969

This month was slightly cooler and less rainy than last April. Five short and light heat waves were experienced during the period (8th —9th), on the 15th, 20th, 24th and 30th respectively. The fourth heat wave yielded the highest maximum air temperature for the month (33.7 °C). During rest of the month, the daily maximum air temperatures were below normal. The lowest maximum air temperature for the month (20.0 °C) was reported on the 1st.

The extreme maximum soil temperatures were lower than the corresponding values of last April at depths between 2 and 20 cms. and the differences ranged between 6.8 °C at 2 cms, and 0.2 °C at 20 cms, At 50 cms. depth the value was the same as last April and at 100 cms, it was 0.7 °C higher. The extreme minimum soil temperatures were higher than last April at all depths between 2 and 100 cms, and the differences ranged between 0.7 °C at 2 cms, and 2.4 °C at 20 cms.

The daily mean Pan evaporation was 0.5 mm. more than the corresponding value of April 1968. The mean daily actual duration of bright sunshine was 0.7 hour less than April 1968.

KHARGA—APRIL 1969

This month was cooler than normal. The total monthly rainfall was 2.3mms, while this month is normally rainless. A pronounced heat wave occurred during the period (7th — 11th) and two short and light heat waves on the 14th and 24th. The first heat wave yielded he highest maximum air temperature for the month (42.2 °C) on the 9th. During rest of the month the daily maximum air temperatures were below normal. The lowest maximum air temperature for the month (22.8 °C) was reported on the 16th.

The extreme maximum soil temperatures were lower than the corresponding values of last April at all depths except at 100 cms. where it was 0.5 °C higher, the differences ranged between 0.2 °C at 2 cms, and 2.7 °C at 5 cms. The extreme minimum soil temperatures were lower than the corresponding values of last April at shallow depths between 2 and 10 cms. and the differences ranged between 2.5°C at 5 cms. and 1.8°C at 10 cms. At deeper depths between 20 and 100 cms, the extreme soil minima were higher than last April and the differences ranged between 0.4 °C at 20 cms. and 2.2 °C at 100 cms.

The daily mean Pan evaporation was 1.72 mm, less than the corresponding value of April 1968. The daily mean actual duration of bright sunshine was 2.0 hour less than the corresponding value of April 1968.

Taeble C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

APRIL — 1969

STATION	Air Temperature (°C)					Mean Duration in hours of daily air temperature above the following values.										
	Mean Max.	Mean Min.	Mean of the day	Night time mean	Day time mean	-5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C
El Kasr	21.1	12.0	16.6	14.4	17.8	24.0	24.0	24.0	23.5	16.4	2.0	0.3	0.0	0.0	0.0	0.0
Tahrir	26.2	11.8	18.1	14.5	20.4	24.0	24.0	24.0	23.6	15.8	8.0	2.6	0.4	0.0	0.0	0.0
Bahtim	26.3	9.8	17.9	13. 6	20.5	24.0	24.0	24.0	22.1	15.2	8.6	3.5	0.4	0.0	0.0	0.0
Kharga	30.9	16.1	23.7	20.8	25.5	24.0	24.0	24.0	24.0	22.2	17.4	9.4	3.8	0.6	0.1	0.0

Table C 2.—ABSOLUTE VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS.

APRIL — 1969

STATION	Max. Temp. at 1½ metres (°C)				Min. Temp. at 1½ metres (°C)				Min. Temp. at 5 cms. above (°C			
	Highest		Lowest		Highest		Lowest		Dry soil		Grass	
	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date
El Kasr	30.7	30	17.4	11	15.2	27	8.0	22	4.7	22	—	—
Tahrir	35.2	24	20.6	12	15.7	15	7.5	18	5.7	2	—	—
Bahtim	33.7	24	20.0	1	15.4	9	5.4	2	2.0	2	—	—
Kharga	42.2	9	22.8	16	23.2	9	9.2	18,19	7.0	19	—	—

Table C 3.—(SOLAR+SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL.

APRIL — 1969

STATION	(Solar+Sky) Radiation gm. cal/cm²	Duration of Bright Sunshine (hours)			Relative Humidity. %				Vapour pressure (mms)						Evaporation(mms)		Rainfall (mms)		
		Total Actual monthly	Total Possible monthly	%	Mean of day	1200 U.T.	Lowest	Date	Mean of day	1200 UT	Highest	Date	Lowest	Date	Piche	Pan class (A)	Total Amount Monthly	Max. Fall in one day	Date
El Kasr . .	472.4	272.7	388.7	70	73	65	24	19	10.3	11.0	14.2	9	6.2	16	6.8	8.18	2.1	1.4	14
Tahrir . .	582.3	281.2	387.7	73	60	35	14	24	8.9	8.0	13.1	15	5.2	16	7.6	7.81	0.3	0.3	8
Bahtim . .	608.9	269.7	387.2	70	59	32	18	20	8.4	7.6	13.0	15	4.2	16	8.7	8 00	1.7	0.9	11
Kharga . .	496.4	265.4	382.8	69	31	21	9	30	6.4	6.3	11.7	16	2.7	22	18.0	14.22	2.3	1.5	15

Table C 4.—EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS (cms) IN DIFFERENT FIELDS

APRIL — 1969

STATION	Highest (H) Lowest (L)	Extreme soil temperature (°C) in dry field at different depths (cms.)								Extreme soil temperature (°C) in grass field at different depths (cms.)							
		2	5	10	20	50	100	200	300	2	5	10	20	50	100	200	300
El Kasr . . .	H	35.4	30.3	26.4	23.4	21.5	20.6	23.4	—	—	—	—	—	—	—	—	—
	L	14.3	13.3	14.4	16.6	18.4	19.2	23.2	—	—	—	—	—	—	—	—	—
Tahrir	H	49.3	41.6	34.8	29.3	24.8	23.5	22.6	22.5	—	—	—	—	—	—	—	—
	L	14.9	15.5	15.8	18.6	20.8	21.7	21.0	20.6	—	—	—	—	—	—	—	—
Bahtim . . .	H	45.9	37.4	31.5	27.2	24.6	23.3	22.5	22.8	—	—	—	—	—	—	—	—
	L	15.7	16.0	18.2	21.0	21.2	21.6	21.9	22.6	—	—	—	—	—	—	—	—
Kharga . . .	H	52.4	44.5	36.7	31.2	28.7	27.2	26.7	26.8	—	—	—	—	—	—	—	—
	L	10,1	12.0	17.1	22.4	25.8	26.0	25.7	26.4	—	—	—	—	—	—	—	—

Table C 5.—SURFACE WIND

APRIL — 1969

STATION	Wind Speed m/sec at 1½ metres			Days with surface wind speed at 10 metres							Max. Gust (knots) at 10 metres	
	Mean of the day	Night time mean	Day time mean	≥10 knots	≥15 konts	≥20 knots	≥25 knots	≥30 knots	≥35 knots	≥40 knots	value	Date
El Kasr . . .	2.4	2.1	2.8	—	—	—	—	—	—	—	—	—
Tahrir	2.5	1.9	3.2	23	20	5	2	9	0	0	35	16
Bahtim	2.6	1.8	3.5	30	20	6	2	0	0	0	34	16
Kharga . . .	4.0	3.2	4.8	29	26	17	7	0	0	0	39	21

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UNITED ARAB REPUBLIC

MONTHLY WEATHER REPORT

VOLUME 12 NUMBER 5

MAY, 1969

U.D.C. 551. 506.1](62)

METEOROLOGICAL DEPARTMENT
CAIRO

PUBLICATIONS OF THE METEOROLOGICAL DEPARTMENT OF THE UNITED ARAB REPUBLIC--CAIRO

In fulfilment of its duties, the U.A.R. Meteorological Department issues several reports and publications on weather, climate and agrometeorology. The principal publications are described on this page.

Orders for publications should be adressed to :

"The Director General, Meteorological Department, Kubri-el-Qubbeh — CAIRO".

THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Department since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968 this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for U.A.R.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of the U.A.R. as well as monthly values of certain elements.

THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in march 1968 which brings normals and mean values up till 1960.

METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff of "The Meteorological Institute for Research and Training" and the Operational Divisions of Meteorological Department.

TECHNICAL NOTES

As from October 1970, the Meteorological Department started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

The first Technical Note I was issued in October 1970 on : Sandstorms & Duststorms in the U.A.R.

UNITED ARAB REPUBLIC

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METEOROLOGICAL DEPARTMENT
CAIRO

CONTENTS

Note : For explanatory notes on tables please refer to Volume 12, Number 1 (January 1969).

GENERAL SUMMARY OF WEATHER CONDITIONS

MAY 1969

Moderately changeable, characterized by three khamsin depressions. Heavy rain between the 10th and 16th over northwest coast

GENERAL DESCRIPTION OF WEATHER

The prevailing weather during this month was moderately changeable with respect to temperature. The month was mainly characterized by four khamsin heat waves of variant intensity ; and of short duration in north of the Republic and moderate duration in the south with their peaks round the 1st, 8th, 22th and 31st. The break down of these heat waves was followed by appreciable drop in temperature mainly during the two periods: (2nd-6th) and (10th-16th). The second period was characterized by scattered light rain in general over the Mediterranean district, which extended sometimes to few localities inland.

Rising sand blew during several days over scattered parts, mainly in Upper Egypt and Western Desert districts. Early morning mist developed during few days over scattered localities in Delta, Canal and Cairo areas.

PRESSURE DISTRIBUTION

The most outstanding features of pressure distribution over the surface maps during this month were :

— The Atlantic anticyclone and its south-east extension.

— Deep low pressure systems through North and Central Europe.

— Moving anticyclones through Europe and their extensions through the Mediteranean and North Africa.

— Shallow khamsin secondaries moving near the coast of North Africa.

— The Sudan monsoon trough.

During this month, three khamsin trasits through U.A.R. and two northward elongations of the Sudan trough were experienced.

The first khamsin depression appeared over the western coast of U.A.R. on the 1st, as a secondary for a low pressure system over the Balkans. The whole system proceeded eastwards, and the Khamsin depression traversed north of U.A.R. on the 2nd. The second and third Khamsin depressions developed over North Algiers, on the 5th, 18th respectively and were secondaries for travelling deep low pressure systems through central Europe. The Khamsin depressions moved south of the coast of North Africa, and traversed north of U.A.R. on the 9th and 22nd respectively.

The Sudan trough experienced two northward elongations during the periods (10th—11th) and (29th—31st).

The transit of the above mentioned khamsin depressions through north of U.A.R. and the two northward elongations of the Sudan trough, were followed by the establishment of high pressure over East Mediterranean and NE Africa. Accordingly, the barometric pressure over U.A.R. experienced five oscillations with their minima round the 2nd, 9th, 12th, 23rd and 31st respectively.

The most important features of pressure distribution over the upper air charts were :

— Deep upper lows over North Russia and North Atlantic.

— Secondary upper troughs through the Mediterranean and its vicinities, passing through East Mediterranean and north of U.A.R. on the 5th, 18th and 23rd.

SURFACE WIND

The prevailing winds during this month blew mostly between the NE & NW directions, and were generally light to moderate. They became fresh to strong during several days over scattered parts mainly in the Mediterranean, Red Sea and Western Desert districts.

Gales were recorded at Dabaa on the 1st & 5th.

TEMPERATURE

Maximum air temperature experienced large variability during the heat waves mostly in the middle and southern parts. During the rest periods of the month, maximum air temperature showed moderate to large departures below normal in general. Maximum air temperature values ranged generally between 23°C & 33°C in the northern parts, between 27°C &37°C in the middle parts and between 33°C & 43°C in the southern parts.

The absolute maximum air temperature for the month was 45.6°C recorded at Aswan on the 11th.

Variability in minimum temperature was rather less than variability in maximum temperature. Minimum air temperature oscillated round normal and its values ranged generally between 15°C & 20°C in the northern and middle parts and between 18°C & 26°C in the southern parts.

The absolute minimum air temperature was 11.2°C recorded at Beni Suef on the 14th.

PRECIPITATION

Light rain fell over the Mediterranean district during the period (10th-16th) and extended sometimes to few land localities. Rain was locally heavy on the 11th over Sallum and Mersa Matruh where 17.0 mm, 20 mm. were reported respectivey. It is worthy to mention that the daily rainfall at Mersa Matruh on the 11th (20 mms) is a record for May since the year 1947. The monthly rainfall was generally above normal over the Mediterranean district and below normal elsewhere.

The highest daily rainfall for the month was 20.0 mm. recorded at Mersa Matruh on the 11th.

The highest monthly rainfall was 31.7 mm. recorded at Sallum.

Cairo, July 1971

M. F. TAHA
Under Secretary of State
Director General
Meteorological Department

Table A 1. — MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION.

MAY — 1969

STATION	Atmospheric Pressure (mbs) M.S.L		Air Temperature °C									Relative Humidity %		Bright Sunshine Duration (Hours)			Piche Evap. (mms) Mean
			Maximum		Minimum			Dry Bulb		Wet Bulb							
	Mean	D.F. Normal or Average	(A) Mean	D.F. Normal or Average	(B) Mean	D.F. Normal or Average	$\frac{A+B}{2}$	Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Total Actual	Total Possible	%	
Sallum	1013.9	0.0	26.0	−0.2	17.2	+0.7	21.6	21.2	+0.3	16.5	+0.3	60	+ 1	—	—	—	6.6
Mersa Matruh (A)	1013.6	+0.1	24.4	−1.1	15.5	+1.0	20.0	19.7	−0.3	17.3	+1.0	78	+12	—	—	—	4.8
Alexandria (A)	1012.9	0.0	26.2	−0.4	17.4	+0.9	21.8	21.4	−0.0	17.9	+0.2	69	+ 2	344.1	425.6	81	6.3
Port Said (A)	1011.6	−0.9	24.8	−0.8	19.0	−0.6	21.9	21.5	−0.5	18.9	−0.1	77	+ 7	305.6	425.6	72	6.1
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1012.0	−0.1	31.1	−0.6	16.0	+1.6	23.6	22.8	+0.2	17.4	+1.0	55	+ 6	331.8	424.5	78	7.3
Cairo (A)	1011.5	−0.7	31.5	−0.8	17.8	+0.4	24.6	24.1	−0.5	17.3	−0.3	48	+ 5	—	—	—	17.9
Fayoum	—	—	33.3	−0.4	17.5	+0.3	25.4	25.5	+0.5	17.7	+1.7	43	+ 8	—	—	—	7.9
Minya (A)	1010.5	−0.5	33.9	−1.0	16.6	+0.2	25.2	25.6	−0.1	16.9	+0.3	38	+ 2	344.5	419.4	82	15.3
Assyout (A)	1009.7	−1.0	34.9	−1.2	19.0	−0.2	27.0	27.0	−0.6	16.9	+1.2	31	+ 9	—	—	—	20.8
Luxor (A)	1008.4	−0.4	38.8	0.0	19.9	−0.2	29.4	29.6	−0.5	17.8	+0.4	26	+ 4	—	—	—	12.9
Aswan (A)	1008.1	−0.5	38.6	+0.5	21.4	+0.7	30.0	30.4	+0.4	15.9	+0.6	14	+ 2	—	—	—	28.4
Siwa	1012.2	−0.7	33.0	−1.2	17.1	+0.5	25.0	25.2	−0.4	16.0	−0.5	33	+ 4	354.8	421.4	84	17.6
Bahariya	1011.6	−0.2	33.3	−1.1	17.2	0.0	25.2	25.6	−0.1	16.2	+0.3	33	+ 5	—	—	—	12.2
Farafra	1012.1	−1.5	33.8	−0.5	17.3	+0.6	25.6	25.8	+0.3	16.1	+1.6	32	+ 9	—	—	—	18.0
Dakhla	1010.9	+0.5	35.1	−1.8	18.7	−0.8	26.9	27.1	−0.5	15.8	+0.8	24	+ 6	—	—	—	21.6
Kharga	1009.5	−0.8	36.8	−0.9	20.9	0.0	28.8	29.1	+1.1	15.6	−0.1	22	0	336.6	414.1	81	23.4
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	1008.5	−0.7	30.6	+0.9	21.3	+0.9	26.0	26.2	+0.6	19.0	+1.0	47	+ 3	—	—	—	17.1
Quseir	1008.6	−0.5	29.4	−0.9	22.4	−0.8	25.9	26.2	−0.5	19.3	+0.7	49	+ 5	—	—	—	15.4

Table A2.— MAXIMUM AND MINIMUM AIR TEMPERATURES

MAY — 1969

Station	Maximum Temperature °C									Grass Min. Temp.		Minimum Temperature °C							
	Highest	Date	Lowest	Date	No. of Days with Max-Temp.					Mean	D. From Normal	Highest	Date	Lowest	Date	No. of Days with Min. Temp.			
					>25	>30	>35	>40	>45							<10	<5	<0	<-5
Sallum	32.0	23	20.6	15	17	3	0	0	0	17.0	—	23.4	30	14.0	11	0	0	0	0
Mersa Matruh. . . . (A)	29.8	7	20.8	12	14	0	0	0	0	—	—	18.2	24	11.9	7	0	0	0	0
Alexandria . . . . . (A)	33.4	8	22.4	2	20	3	0	0	0	15.2	—	21.3	31	13.4	14	0	0	0	0
Port Said. . . . . (A)	28.2	31	21.5	11	13	0	0	0	0	18.4	—	23.1	31	14.7	3	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta.	36.7	31	22.6	10	29	20	5	0	0	—	—	19.6	30	12.7	7	0	0	0	0
Cairo . . . . . (A)	39.5	21	24.4	10	30	19	7	0	0	—	—	21.0	1	13.8	4	0	0	0	0
Fayoum	40.8	31	24.3	10	30	22	12	2	0	15.3	—	22.6	22	13.8	1,3	0	0	0	0
Minya . . . . . (A)	39.8	31	28.6	11	31	26	12	0	0	15.0	—	20.0	22	12.4	3	0	0	0	0
Assyout. . . . . (A)	40.8	21,31	27.5	14	31	29	16	3	0	17.2	—	24.0	22	15.0	3	0	0	0	0
Luxor. . . . . (A)	44.7	22	31.0	14	31	31	25	13	0	17.0	—	25.0	23	15.0	1	0	0	0	0
Aswan . . . . . (A)	45.6	11	26.8	15	31	30	22	14	2	—	—	26.6	22	17.0	1	0	0	0	0
Siwa	39.4	28	26.0	16	31	21	13	0	0	14.9	—	20.3	29	13.7	3	0	0	0	0
Bahariya	39.0	1	26.0	10	31	24	11	0	0	16.0	—	21.3	22	13.9	3	0	0	0	0
Farafra.	40.4	1	28.2	13	31	26	12	1	0	16.6	—	22.0	22	12.7	3	0	0	0	0
Dakhla	40.6	1	28.2	14	31	30	15	1	0	—	—	23.7	11	13.4	7	0	0	0	0
Kharga	42.0	31	31.0	14	31	31	19	8	0	19.3	—	25.8	23	13.2	1	0	0	0	0
Tor.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurg hada.	36.0	22	26.1	6	31	18	1	0	0	—	—	26.6	24	16.5	1	0	0	0	0
Qusetr	34.0	22	26.2	15	31	10	0	0	0	20.0	—	26.0	23	17.7	1	0	0	0	0

Table A 3.—SKY COVER AND RAINFALL

MAY — 1969

Station	Mean Sky Cover Oct.					Rainfall mms.										
	00 U.T.	06 U.T.	12 U.T.	18 U.T.	Daily Mean	Total Amount	D. From Normal	Max. Fall in one day		Number of Days with Amount of Rain						
								Amount	Date	<0.1	≥0.1	≥1.0	≥5.0	≥10	≥25	≥50
Sallum (A)	2.9	2.0	2.5	1.2	2.3	31.7	+28.4	17.1	11	0	5	4	3	1	0	0
Mersa Matruh (A)	2.3	3.4	3.0	2.4	2.8	22.5	+20.0	20.1	11	0	4	2	1	1	0	0
Alexandria (A)	3.5	3.7	3.3	3.1	3.2	2.4	+ 0.4	2.4	16	0	1	1	0	0	0	0
Port Said (A)	—	2.9	2.2	—	—	2.0	— 1.0	1.2	10	3	2	1	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	0.8	2.6	2.8	0.9	1.8	1.8	— 1.9	1.8	10	0	1	1	0	0	0	0
Cairo (A)	1.1	3.7	2.6	1.2	2.1	0.5	— 0.2	0.4	11	2	2	0	0	0	0	0
Fayoum	—	2.0	2.2	2.0	—	0	— 1.3	0	—	0	0	0	0	0	0	0
Minya (A)	0.8	1.6	2.1	1.3	1.4	Tr.	— 0.6	Tr.	12	1	0	0	0	0	0	0
Assyout (A)	0.9	1.3	1.8	1.1	1.2	0	— Tr.	0	—	0	0	0	0	0	0	0
Luxor (A)	0.9	1.9	2.0	1.6	1.6	0	— 0.4	0	—	0	0	0	0	0	0	0
Aswan	1.1	1.2	1.3	1.5	1.4	0	— Tr.	0	—	0	0	0	0	0	0	9
Siwa	0.5	1.5	2.0	1.3	1.3	0.3	— 1.5	0.3	16	0	1	0	0	0	0	0
Bahariya	0.6	1.1	1.6	1.0	0.8	Tr.	— 0.1	Tr.	9,10	2	0	0	0	0	0	0
Farafra	—	0.9	0.7	0.6	—	0	— 0.1	0	—	0	0	0	0	0	0	0
Dakhla	1.6	1.6	1.7	1.0	1.4	0	— 0.1	0	—	0	0	0	0	0	0	0
Kharga	0.6	1.7	1.9	1.2	1.3	0	— 0.3	0	—	0	0	0	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	1.4	2.4	2.1	1.8	1.8	0	— 0.4	0	—	0	0	0	0	0	0	0
Qusoir	0.8	1.5	1.6	1.1	1.2	Tr	0.0	Tr.	14,15	2	0	0	0	0	0	0

Table A 4. — DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA.

MAY — 1969

Station	Precipitation				Frost	Thunderstorm	Mist Vis ≥1000 metres	Fog Vis <1000 Metres	Haze Vis ≥1000 Metres	Thick Haze Vis <1000 Metres	Dust or Sandstorm Vis ≥1000 Metres	Dust or Sandstorm Vis <1000 Metres	Gale	Clear Sky	Cloudy Sky
	Rain	Snow	Ice, Pellets	Hail											
Sallum	5	0	0	0	0	1	0	0	0	0	0	0	0	17	2
Mersa Matruh (A)	4	0	0	0	0	2	6	0	0	0	4	0	0	12	2
Alexandria (A)	1	0	0	0	0	1	7	1	0	0	2	0	0	10	4
Port Said (A)	2	0	0	0	0	0	0	0	0	0	1	0	0	—	—
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1	0	0	0	0	0	1	0	1	0	1	0	0	18	0
Cairo (A)	2	0	0	0	0	0	10	1	5	0	5	0	0	18	2
Fayoum	0	0	0	0	0	0	0	0	0	0	1	0	0	—	—
Minya (A)	0	0	0	0	0	0	0	0	0	0	0	0	0	20	1
Assyout (A)	0	0	0	0	0	0	0	0	5	0	3	0	0	23	1
Luxor (A)	0	0	0	0	0	0	0	0	6	0	2	0	0	21	2
Aswan (A)	0	0	0	0	0	0	0	0	0	0	1	0	0	25	3
Siwa	1	0	0	0	0	1	0	0	0	0	1	0	0	21	0
Bahariya	0	0	0	0	0	0	0	0	0	0	2	0	0	22	0
Farafra	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
Dakhla	0	0	0	0	0	0	0	0	1	0	0	0	0	22	1
Kharga	0	0	0	0	0	0	0	0	0	0	7	0	0	22	0
Tor	—	—	—	—	—	0	—	—	—	—	—	—	—	—	—
Hurghada	0	0	0	0	0	0	0	0	0	0	5	0	0	20	2
Quseir	0	0	0	0	0	0	0	0	1	0	0	0	0	24	1

Table A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

MAY — 1969

Station	calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	All directions
Sallum	29	0	12	1-10	49	138	80	66	49	10	5	6	3	21	50	87	564
				11-27	11	16	0	0	0	0	0	0	0	0	45	67	139
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**60**	**154**	**80**	**66**	**49**	**10**	**5**	**6**	**3**	**21**	**95**	**154**	**703**
Meras Matruh (A)	22	0	2	1-10	73	40	26	15	20	21	3	12	21	96	75	115	517
				11-27	10	7	16	7	6	2	0	0	1	6	58	90	203
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**83**	**47**	**42**	**22**	**26**	**23**	**3**	**12**	**22**	**102**	**133**	**205**	**720**
Alexandria (A)	0	0	0	1-10	77	36	18	34	17	2	3	8	11	77	177	163	623
				11-27	26	7	7	5	1	1	0	0	4	21	21	28	121
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**103**	**43**	**25**	**39**	**18**	**3**	**3**	**8**	**15**	**98**	**198**	**191**	**744**
Port Said (A)	1	0	1	1-10	51	36	20	10	0	1	5	9	24	22	52	113	343
				11-27	72	67	40	28	1	0	0	9	20	24	49	89	399
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**123**	**103**	**60**	**38**	**1**	**1**	**5**	**18**	**44**	**46**	**101**	**202**	**742**
Tanta	30	2	0	1-10	84	33	29	20	2	4	21	37	69	104	88	148	639
				11-27	19	5	3	0	0	0	0	3	10	6	16	11	73
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**103**	**38**	**32**	**20**	**2**	**4**	**21**	**40**	**79**	**110**	**104**	**159**	**712**
Cairo (A)	20	0	0	1-10	65	109	69	20	10	3	3	5	13	37	62	73	469
				11-27	30	100	29	14	5	4	1	0	10	23	21	18	255
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**95**	**209**	**98**	**34**	**15**	**7**	**4**	**5**	**23**	**60**	**83**	**91**	**734**
Fayoum	20	1	0	1-10	253	233	17	3	7	8	14	6	20	15	52	40	668
				11-27	11	37	1	0	0	0	4	1	0	0	0	1	55
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**264**	**270**	**18**	**3**	**7**	**8**	**18**	**7**	**20**	**15**	**52**	**41**	**723**
Minya (A)	35	0	1	1-10	214	28	1	1	0	14	11	4	7	10	27	104	421
				11-27	224	33	0	0	0	3	3	0	1	3	9	11	287
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**438**	**61**	**1**	**1**	**0**	**17**	**14**	**4**	**8**	**13**	**36**	**115**	**708**

Table A 5 (*contd.*)—NUMBER IN HOURS OF OCCURRENCE OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

MAY — 1969

Station	calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												All directions
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	
Asyout . . . . . (A)	3	0	0	1–10	15	9	4	13	12	10	4	6	54	223	156	64	570
				11–27	14	1	0	0	2	4	7	2	2	17	58	64	171
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**29**	**10**	**4**	**13**	**14**	**14**	**11**	**8**	**56**	**240**	**214**	**128**	**741**
Luxor . . . . . (A)	6	4	19	1–10	35	24	14	32	20	48	84	38	55	118	148	48	664
				11–27	0	0	0	0	1	1	1	0	0	26	21	1	51
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**35**	**24**	**14**	**32**	**21**	**49**	**85**	**38**	**55**	**144**	**169**	**49**	**715**
Aswan . . . . . (A)	15	5	2	1–10	101	98	10	2	11	12	16	5	8	25	51	142	481
				11–27	29	28	0	0	1	4	6	1	2	2	9	159	241
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**130**	**126**	**10**	**2**	**12**	**16**	**22**	**6**	**10**	**27**	**60**	**301**	**722**
Siwa	26	1	1	1–10	28	122	109	64	45	22	4	7	4	25	71	81	582
				11–27	11	29	5	4	1	1	2	1	0	6	36	38	134
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**39**	**151**	**114**	**68**	**46**	**23**	**6**	**8**	**4**	**31**	**107**	**119**	**716**
Dakhla	0	2	0	1–10	113	30	17	7	17	8	30	15	54	101	128	122	642
				11–27	0	8	0	1	2	1	1	0	0	0	22	65	100
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**113**	**38**	**17**	**8**	**19**	**9**	**31**	**15**	**54**	**101**	**150**	**187**	**742**
Kharga	3	5	4	1–10	80	38	14	4	11	12	10	4	10	13	74	165	435
				11–27	133	8	0	0	0	0	1	1	0	0	14	140	297
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**213**	**46**	**14**	**4**	**11**	**12**	**11**	**5**	**10**	**13**	**88**	**305**	**732**
Hurghada	13	0	10	1–10	25	26	15	11	11	26	7	5	6	6	41	80	259
				11–27	185	33	1	0	0	4	0	0	0	0	38	193	454
				28–47	0	0	0	0	0	0	0	0	0	0	0	8	8
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**210**	**59**	**16**	**11**	**11**	**30**	**7**	**5**	**6**	**6**	**79**	**281**	**721**
Quseir	5	3	8	1–10	163	50	19	16	17	11	25	13	22	45	77	109	567
				11–27	141	13	0	0	0	0	0	0	0	0	0	67	221
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**244**	**63**	**19**	**16**	**17**	**11**	**25**	**13**	**22**	**45**	**77**	**176**	**728**

UPPER AIR CLIMATOLOGICAL DATA

Table B1 —MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

MAY—1969

Station	Pressure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh 0000 U.T.	Surface	28	1010m.b.*	1015m.b.*	1006m.b.*	28	17.9	21.0	13.8	28	15.4
	1000	28	114	155	79	28	18.2	21.5	14.6	28	14.9
	850	28	1504	1552	1453	28	15.3	21.5	7.8	28	0.4
	700	27	3125	3197	3047	27	6.3	11.6	— 2.0	27	—11.6
	600	27	4370	4454	4266	27	— 1.9	4.0	— 9.5	27	—19.0
	500	27	5794	5890	5658	27	—12.1	— 6.4	—18.6	27	—28.9
	400	26	7456	7580	7261	26	—25.0	—20.4	—31.5	26	—40.0
	300	27	9487	9640	9255	27	—40.2	—36.0	—45.2	25	—52.5
	250	24	10716	10898	10475	24	—48.2	—36.7	—54.0	24	—59.3
	200	22	12166	12418	11949	22	—55.4	—45.9	—63.9	15	—65.8
	150	19	14000	14295	13729	19	—57.6	—52.9	—61.3	2	—66.8
	100	12	16554	16779	16295	12	—66.4	—63.3	—71.8	—	—
	70	8	18730	18870	18630	8	—67.7	—64.6	—72.4	—	—
	60	8	19664	19786	19580	8	—66.0	—62.8	—71.0	—	—
	50	8	20776	20866	20672	8	—62.4	—60.0	—66.8	—	—
	40	4	22176	22270	22073	4	—58.6	—55.0	—62.6	—	—
	30	1	24000	—	—	1	—56.0	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 0000 U.T.	Surface	25	995m.b.*	998 m.b.*	991m.b.*	25	20.0	25.6	15.0	25	11.3
	1000	25	94	117	58	—	—	—	—	—	—
	850	25	1489	1524	1439	25	15.9	24.0	9.4	25	— 0.6
	700	25	3112	3158	3029	25	6.6	11.3	— 0.2	25	—10.6
	600	25	4358	4420	4265	25	— 1.8	4.9	— 7.6	25	—16.3
	500	25	5782	5862	5681	25	—11.9	— 5.1	—16.0	25	—27.0
	400	25	7453	7564	7339	25	—23.7	—18.7	—26.6	25	—38.3
	300	25	9493	9628	9363	25	—38.5	—30.0	—42.8	24	—51.0
	250	24	10722	10860	10589	24	—47.9	—38.4	—52.4	22	—58.9
	200	23	12163	12356	12028	23	—55.6	—47.5	—63.7	14	—64.7
	150	20	13982	14211	13836	20	—57.8	—55.1	—61.5	12	—67.7
	100	19	16492	16673	16350	19	—64.2	—59.5	—71.0	—	—
	70	14	18624	18800	18140	14	—65.1	—61.0	—69.2	—	—
	60	11	19523	19729	19500	11	—63.5	—60.4	—66.0	—	—
	50	10	20702	20815	20615	10	—61.7	—59.9	—65.7	—	—
	40	7	22142	22231	22035	7	—58.8	—56.6	—61.0	—	—
	30	7	23963	24062	23843	7	—55.3	—52.9	—58.1	—	—
	20	4	26580	26703	26424	4	—48.9	—46.5	—54.0	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan 0000 U.T.	Surface	30	985m.b.*	991m.b.*	981m.b.*	30	25.1	31.0	20.8	30	2.2
	1000	30	67	115	28	—	—	—	—	—	—
	850	30	1441	1528	1461	30	22.5	28.4	15.7	30	— 2.0
	700	30	3144	3179	3104	30	11.6	15.3	5.7	30	—10.8
	600	30	4415	4451	4357	30	1.8	7.4	— 6.0	30	—16.1
	500	30	5859	5959	5790	30	— 7.4	— 1.3	—12.7	30	—24.5
	400	30	7555	7695	7466	30	—20.4	—16.1	—24.0	30	—35.3
	300	30	9630	9770	9521	30	—34.4	—25.8	—40.2	30	—47.1
	250	29	10881	11031	10655	29	—43.5	—37.9	—48.8	29	—55.3
	200	28	12351	12527	12204	28	—52.9	—48.0	—58.2	28	—63.4
	150	27	14176	14373	14012	27	—61.4	—56.1	—65.1	6	—68.0
	100	26	16616	16749	16423	26	—71.2	—63.0	—79.2	—	—
	70	23	18748	18920	18560	23	—68.5	—53.7	—75.0	—	—
	60	20	19680	19814	19509	20	—65.3	—53.0	—75.4	—	—
	50	19	20798	21019	20626	19	—62.6	—55.6	—75.1	—	—
	40	13	22190	22429	22037	13	—57.8	—54.4	—59.8	—	—
	30	11	24033	24267	23862	11	—54.0	—52.5	—57.3	—	—
	20	6	26698	26899	26522	6	—46.0	—43.1	—49.1	—	—
	10	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

* The atmospheric presselevation of the radiosonde station.

UPPER AIR CLIMATOLOGICAL DATA

Table B1 (*contd*).—MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

MAY—1969

Note : Climatological upper air data for Mersa Matruh, Helwan & Aswan at 1200 U.T. are missing since number of days of radiosonde observations at these stations are less than the permissible number needed for calculating or processing monthly values.

Table B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE. THE HIGHEST WIND SPEED IN THE UPPER AIR

MAY—1969

	Station	Freezing level									First Tropopause									Highest wind speed			
		Mean			Highest			Lowest			Mean			Highest			Lowest						
		Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Direction (000–360)°	Speed in Knots
		(N)	(N)	(N)							(N)	(N)	(N)										
0000 U.T.	Mersa Matruh (A)	4079 (27)	620 (27)	-16.1 (27)	4940	562	-29.7	2720	730	-0.0	12060 (17)	210 (17)	-58.0 (17)	17720	85	-75.0	8450	338	-41.7	11070	230	238	115
	Helwan	4126 (25)	619 (25)	-18.4 (25)	5220	542	-22.1	3103	700	-4.2	13015 (19)	180 (19)	-60.6 (19)	16950	93	-70.2	11340	223	-53.0	9360	304	203	150
	Aswan . . . (A)	4714 (30)	578 (30)	-17.6 (30)	5340	539	-18.7	4030	625	-0.8	16764 (23)	100 (23)	-71·3 (23)	22530	38	-55.2	15420	121	-66.5	12690	186	242	118

N = The Number of cases the element has been observed during the month.

Table B 3.—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

MERSA MATRUH (A)—MAY 1969

Time	Pressure Surface (Millibar)	Wind between ranges of direction (000—360)°																						Number of Calm winds	Total Number of Observations (T N)	Mean Scalar wind Speed (Knots)
		345/014		015/044		045/074		075/104		105/134		135/164		165/194		195/224		225/254		255/284		285/314		315/344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	3	8	1	5	0	—	0	—	2	12	1	3	0	—	1	7	3	6	6	8	6	10	2	8	2	27	8
	1000	3	7	3	12	1	12	1	9	2	18	0	—	0	—	0	—	1	13	2	10	7	14	5	11	1	26	12
	850	6	14	3	13	3	21	1	18	1	7	0	—	0	—	2	16	0	—	3	17	1	32	6	19	0	26	17
	700	7	14	2	18	1	16	0	—	0	—	0	—	1	7	0	—	3	26	5	22	3	23	4	23	0	26	20
	600	3	29	2	16	1	9	1	19	1	7	0	—	0	—	0	—	2	24	6	31	4	28	6	26	0	26	25
	500	3	17	2	16	1	23	0	—	0	—	1	8	0	—	2	33	2	62	5	35	3	26	7	32	0	26	30
	400	2	16	1	53	0	—	1	12	0	—	0	—	0	—	2	24	4	58	3	47	4	34	7	34	0	24	37
	300	3	28	1	14	0	—	0	—	0	—	0	—	0	—	1	27	2	82	8	46	4	45	5	42	0	24	44
	250	2	15	0	—	1	6	0	—	0	—	0	—	0	—	1	27	4	53	8	50	4	34	3	58	0	23	43
	200	1	18	1	15	0	—	0	—	0	—	0	—	0	—	0	—	4	64	7	44	6	42	2	52	0	21	45
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	20	4	32	8	52	0	—	1	30	0	14	42
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	20	3	39	4	45	2	21	0	—	0	10	36
	70	0	—	2	12	2	16	0	—	0	—	0	—	0	—	3	11	0	—	0	—	0	—	0	—	0	7	13
	60	0	—	2	18	0	—	0	—	1	26	1	9	1	5	0	—	1	8	0	—	1	18	0	—	0	7	15
	50	2	14	0	—	1	13	1	30	1	19	0	—	0	—	0	—	0	—	1	8	0	—	0	—	0	6	16
	40	0	—	0	—	0	—	1	14	0	—	0	—	0	—	0	—	0	—	1	4	0	—	0	—	0	2	9
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month,

TN = The total number of cases the wind has been observed for all dirictions during the month.

Table B 3 NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

HELWAN—MAY 1969

Time	Pressure Surface (Millibar)	Wind between ranges of direction (000—360)°																								Number of Calm winds	Total Number of observations (TN)	Mean Scalar wind Speed (Knots)
		345/014		015/044		045/074		075/104		105/134		135/164		165/194		195/224		225/254		255/284		285/314		315/344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 G. M. T.	Surface	4	7	7	9	3	6	1	6	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	22	5
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	5	26	3	18	0	—	0	—	0	—	0	—	1	6	3	16	1	30	5	21	5	16	2	22	0	25	20
	700	2	16	0	—	0	—	0	—	0	—	2	6	3	34	2	46	4	30	4	24	5	25	3	41	0	25	28
	600	1	15	0	—	0	—	0	—	1	9	1	47	1	33	4	59	4	50	4	38	5	28	3	25	0	24	38
	500	0	—	1	14	0	—	1	9	0	—	0	—	0	—	5	50	3	55	4	35	7	31	1	45	0	22	38
	400	1	10	1	13	1	6	0	—	0	—	0	—	0	—	2	92	3	59	6	49	2	34	2	64	0	18	49
	300	1	10	1	6	0	—	0	—	0	—	0	—	0	—	1	2	1	81	6	56	2	54	1	26	0	13	44
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	14	3	63	5	63	2	67	1	17	0	12	56
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	54	5	65	0	—	0	—	0	8	61
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	74	1	75	0	—	0	—	0	5	74
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

TN = Total number of cases the wind has been observed for all directions during the month.

Table B 3 (*contd.*).—**NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES**

ASWAN (A)— MAY 1969

Time	Pressure Surface Millibar	Wind between specified ranges of direction (000– 300)°																						Number of calm winds	Total number of observations (TN)	Mean scalar wind Speed (knots)
		345 / 014		015 / 044		045 [074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	12	7	4	8	0	—	0	—	1	8	0	—	0	—	0	—	0	—	0	—	2	13	10	11	1	30	9
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	6	9	6	8	2	6	1	5	0	—	0	—	1	9	0	—	1	11	2	6	4	11	6	11	0	29	9
	700	2	15	1	10	0	—	0	—	0	—	1	8	2	9	7	15	7	16	1	29	6	14	2	11	0	29	14
	600	1	18	0	—	0	—	0	—	0	—	0	—	2	27	6	20	6	16	6	22	6	15	1	6	0	28	18
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	28	6	34	8	21	8	22	2	13	0	28	24
	400	0	—	1	2	0	—	0	—	0	—	0	—	0	—	5	46	9	29	7	27	6	24	0	—	0	28	29
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	68	10	48	13	39	2	44	0	—	0	28	45
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	78	10	55	12	44	4	59	0	—	0	28	53
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	89	12	69	13	50	2	54	0	—	0	28	60
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	85	14	45	11	57	1	51	0	—	0	27	52
	100	0	—	0	—	0	—	1	5	2	8	0	—	1	21	4	23	14	40	3	61	0	—	0	—	0	25	33
	70	0	—	0	—	1	22	5	15	2	12	0	—	2	14	2	22	4	12	1	18	2	10	0	—	1	20	14
	60	0	—	2	12	2	18	2	10	5	12	0	—	1	7	0	—	0	—	3	9	2	10	1	5	0	18	11
	50	0	—	0	—	4	25	5	15	3	18	2	12	0	—	0	—	0	—	1	5	0	—	0	—	0	15	17
	40	0	—	0	—	3	15	5	17	2	20	0	—	0	—	0	—	0	—	0	—	1	5	0	—	0	11	16
	30	1	5	0	—	3	15	3	17	1	19	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	8	15
	20	0	—	0	—	2	16	0	—	0	—	0	—	0	—	0	—	1	12	0	—	0	—	0	—	0	3	14
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the wind has been observed from the range of directions during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

REVIEW OF AGRO-METEOROLOGICAL STATIONS

EL KASR — MAY 1969

This month was slightly cooler and appreciably more rainy than normal. The total monthly rainfall was 21.4 mms, while the normal is only 3.6 mms. The daily maximum air temperatures were below normal most days of the month. A weak heat wave occurred on the 7th giving the highest maximum air temperature for the month (27. 5°C).

The extreme maximum soil temperatures were lower than the corresponding values of last May at shallow depths between 2 and 10 cms, and also at 100 cms., and the differences ranged between 3.7°C at 5 cms. and 0.4°C at 100 cms. At 20 cms. depth the value was 0.6°C higher, and at 50 cms., it was the same as last May. The extreme minimum soil temperatures were lower than the corresponding values of last May at all depths between 2 and 100 cms. and the differences ranged between 4.9°C at 2 cms. and 0.2°C at both 50 and 100 cms.

The mean daiy Piche evaporation was 0.6 mm. more than the corresponding value of May 1968. The mean daily actual duration of bright sunshine was 0.5 hour less than May 1968.

TAHRIR — MAY 1969

This month was slightly cooler than last May. The total monthly rainfall was 1.9 mm,. The month was characterized by four heat waves on the 1st, 8th, during the periods (21st — 23rd) and (28th — 31st) respectively. The third heat wave yielded the highest maximum air temperature for the month (37.5°C) on the 21st. The daily maximum air temperatures were below normal during the periods (2nd — 6th) and (10th — 14th). The lowest maximum air temperature for the month (22.3°C) was reported on the 10th.

The extreme maximum soil temperatures were lower than the corresponding values of last May at all depths between 2 and 100 cms., and the differences ranged between 2.1°C at 2 cms. and 0.8°C at 20 cms. The extreme minimum soil temperatures were also lower than the corresponding values of last May at all depths between 2 and 100 cms, and the differences ranged between 6.1°C at 2 cms., and 0.2°C at both 50 and 100 cms.

The mean daily Pan evaporation was 0.26 mm. less than the corresponding value of May 1968. The mean daily actual duration of bright sunshine was 0.7 hour less than May 1968.

BAHTIM — MAY 1969

This month was slightly cooler than last May. The total monthly rainfall was only 0.5 mm. The month was characterized by four heat waves on the 1st, 8th, during the periods (20th — 23rd) and (28th — 31st). The third heat wave yielded the highest maximum air temperature for the month (38.8°C) on the 21st. The daily maximum air temperatures were below normal during the periods (2nd — 6th), (10th — 15th) and on the 25th. The lowest maximum air temperature for the month (23.7°C) was reported on the 10th.

The extreme maximum soil temperatures were lower than the corresponding values of last May at shallow depths between 2 cms. and 10cms. and also at 50 cms., and the differences ranged between 3.0°C at 2 cms, and 0.7°C at 50 cms. At both 20 and 100 cms. the value was 0.2°C higher than last May. The extreme minimum soil temperatures were lower than last May at shallow depths between 2 and 10 cms, and the differences ranged between 0.8°C at 2 cms, and 0.2°C at 5 cms. At deeper depths between 20 and 100 cms. the values were higher than last May, and the differences ranged between 0.2°C at both 20 and 50 cms and 0.7°C at 100 cms.

The mean daily Pan evaporation was 0.11 mm. less than the corresponding value of May 1968. The mean daily actual durration of bright sunshine was 0.7 hour less than May 1968.

KHARGA - MAY 1969

This month was rainless and its mean daily air temperature was nearly normal. The month was characterized by four heat waves on the 1st and during the periods (8th — 11th), (20th — 25th) and (29th-31st). During rest of the month, the daily maximum air temperatures were below normal. The last heat wave yielded the highest maximum air temperature for the month (42.0°C) on the 31st. The lowest maximum air temperature for the month (31.0°C) was reported on the 14th.

The extreme maximum soil temperatures were higher than the corresponding values of last May at all depths between 2 and 100 cms. except at 5 cms. where the value was 0.2°C lower, the differences ranged between 1.3°C at 2 cms, and 0.1°C at 50 cms. The extreme minimum soil temperatures were lower than last May at depths between 2 and 20 cms., and the differences ranged between 3.5°C at 2 cms. at 0.8°C at 20 cms. At 50 and 100 cms. depths the values were higher than last May by 0.1°C and 0.3°C respectively.

The mean daily Pan evaporation was 1.9 mm. less than the corresponding value of May 1968. The mean daily actual duration of bright sunshine was 1.2 hours less than May 1968.

Table C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

MAY — 1969

STATION	Air Temperature (°C)					Mean Duration in hours of daily air temperature above the following values.									
	Mean Max.	Mean Min.	Mean of the day	Night time mean	Day time mean	-5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C
El Kasr	23.6	14.5	19.7	17.3	20.6	24.0	24.0	24.0	24.0	22.6	11.1	1.1	0.0	0.0	0.0	0.0
Tahrir	31.3	16.1	22.8	18.9	24.3	24.0	24.0	24.0	24.0	23.3	13.7	8.1	3.4	0.4	0.0	0.0
Bahtim	31.7	14.4	22.9	18.5	24.6	24.0	24.0	24.0	24.0	21.8	14.5	8.5	3.6	0.7	0.0	0.0
Kharga	36.8	20.9	29.2	25.7	30.4	24.0	24.0	24.0	24.0	23.9	23.1	18.4	10.1	4.0	0.3	0.0

Table C 2.—ABSOLUTE VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS.

MAY — 1969

STATION	Max. Temp. at 1½ metres (°C)				Min. Temp. at 1½ metres (°C)				Min. Temp. at 5 cms. above (°C)			
	Highest		Lowest		Highest		Lowest		Dry soil		Grass	
	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date
El Kasr	27.5	7	21.1	3.5.12*	18.2	24	10.8	7	7.4	5	—	—
Tahrir	37.5	21	22.3	10	19.4	27	12.8	14	11.1	14	—	—
Bahtim	38.8	21	23.7	10	17.7	22	11.2	13	8.2	13	—	—
Kharga	42.0	31	31.0	14	25.8	23		1	11.5	1	—	—

* more than three days.

Table C 3.—(SOLAR+SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL.

MAY — 1969

STATION	(Solar+Sky) Radiation cm. cal/cm²	Duration of Bright Sunshine (hours)			Relative Humidity, %				Vapour pressure (mms)						Evaporation(mms)		Rainfall (mms)		
		Total Actual monthly	Total Possible monthly	%	Mean of day	1200 U.T.	Lowest	Date	Mean of day	1200 UT	Highest	Date	Lowest	Date	Piche	Pan class (A)	Total Amount Monthly	Max. Fall in one day	Date
El Kasr . .	539.7	333.7	426.5	78	83	75	28	7	14.3	15.5	19.7	30	8.7	1	4.5	7.83	21.4	19.2	11
Tahrir . .	646.0	330.0	424.6	78	63	36	14	1	12.2	11.0	16.8	30	6.1	1	9.4	9.96	1.9	1.8	10
Bahtim . .	640.7	314.4	423.5	74	57	33	9	1	11.0	10.3	16.5	30	4.7	1	11.2	10.67	0.5	0.3	11
Kharga . .	546.7	336.6	414.1	81	23	15	5	1	6.7	6.3	11.8	21	2.7	1	23.3	18.73	0.0	—	—

Table C 4.—EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS (cms) IN DIFFERENT FIELDS

MAY — 1969

STATION	Highest (H) Lowest (L)	Extreme soil temperature (°C) in dry field at different depths (cms.)								Extreme soil temperature (°C) in grass field at different depths (cms.)							
		2	5	10	20	50	100	200	300	2	5	10	20	50	100	200	300
El Kasr . . .	H	40.5	36.8	32.4	28.6	25.8	23.3	23.5	—	—	—	—	—	—	—	—	—
	L	17.2	17.1	17.7	18.8	21.3	20.7	23.2	—	—	—	—	—	—	—	—	—
Tahrir	H	51.9	44.4	40.6	34.5	29.6	27.4	24.9	24.3	—	—	—	—	—	—	—	—
	L	17.7	20.0	20.4	22.6	24.4	23.7	22.7	22.6	—	—	—	—	—	—	—	—
Bahtim . . .	H	50.3	44.6	35.7	30.3	27.9	26.0	23.7	23.1	—	—	—	—	—	—	—	—
	L	22.3	22.8	22.4	24.8	24.4	23.4	22.5	22.8	—	—	—	—	—	—	—	—
Kharga . . .	H	57.4	49.7	42.1	35.8	32.5	30.0	28.0	27.3	—	—	—	—	—	—	—	—
	L	16.1	19.9	24.1	27.4	28.3	27.1	26.2	26.7	—	—	—	—	—	—	—	—

Table C 5.—SURFACE WIND

MAY — 1969

STATION	Wind Speed m/sec at 1½ metres			Days with surface wind speed at 10 metres							Max. Gust (knots) at 10 metres	
	Mean of the day	Night time mean	Day time mean	≥10 knots	≥15 knots	≥20 knots	≥25 knots	≥30 knots	≥35 knots	≥40 knots	value	Date
El Kaer . . .	1.9	1.5	2.3	—	—	—	—	—	—	—	—	—
Tahrir	2.7	2.0	3.4	30	21	6	1	0	0	0	34	2
Bahtim	2.9	2.0	3.8	31	23	5	0	0	0	0	30	1
Kharga . . .	3.9	3.0	4.7	30	26	13	2	0	0	0	31	28

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MONTHLY WEATHER REPORT

VOLUME 12 NUMBER 6

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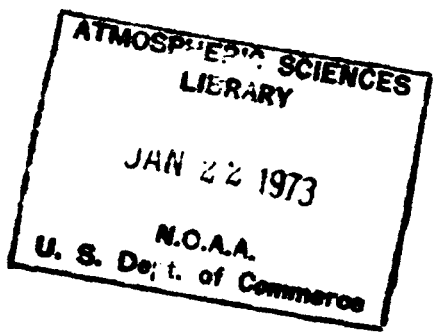

U.D.C. 551, 506.1 (62)

THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

PUBLICATIONS OF THE METEOROLOGICAL AUTHORITY OF THE ARAB REPUBLIC OF EGYPT—CAIRO

In fulfilment of its duties, the Egyptian Meteorological Authority issues serveral reports and publications on weather, climate and agro-meteorology. The principal publications are described on this page.

Orders for publications should be addressed to :

"Chairman of the Board of Directors, Meteor ological Authority, Kubri-el-Qubbeh — CAIRO".

THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Authority since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968 this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

As from 1st January 1972, the Daily Weather Report will not be issued or distributed because it does not serve no longer any good purpose as it used to be in the past. The Meteorological Authority is ready to supply the recipients of the Report with any information used to be included in it, if they so desire.

THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for Egypt.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of Egypt as well as monthly values of certain elements.

THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in March 1968 which brings normals and mean values up till 1960.

METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff of "The Meteorological Institute for Research and Training" and the Operational Divisions of the Meteorological Authority.

TECHNICAL NOTES

As from October 1970, the Meteorological Authority started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

CONTENTS

Note : For explanatory notes on tables please refer to Volume 12, Number 1 (January 1969).

GENERAL SUMMARY OF WEATHER CONDITIONS

JUNE 1969

Abnormally hot during the first half with two pronounced heat waves, normal summer wearther otherwise.

GENERAL DESCRIPTION OF WEATHER

The prevailing weather this month was characterized by five heat waves two of which were excessive with peaks round 8th & 15th. In particular the third heat wave was of rather long duration and prevailed from the 11th till the 15th. The heat waves were separated by short mild periods.

Light rising sand blew during several days over seattered places in the Western Desert, Upper Egypt and Red Sea districts.

PRESSURE DISTRIBUTION

The most outstanding features of pressure distribution over the synoptic surface charts during this month were :

— The Atlantic anticyclone and its east and south east extensions.

— Deep low pressure systems through North Europe.

— Secondary depressions through the Mediterranean and its vicinities.

— A ridge of high pressure over the Mediterranean and NE Africa.

— Complex monsoon low pressure over the Arabian gulf, Arabia and North Sudan.

During this month, four secondary depressions developed over the Mediterranean and its vicinities. The first depression appeared over Greece on the 1st, moved northeastwards and passed through the Black Sea area on the 3rd. The second depression developed over the gulf of Genewa on the 4th ; proceeded slowly eastwards and passed through the Black Sea on the 8th. The third and fourth depressions formed over Central Mediterranean on the 14th and 25th, moved northeastwards and passed through Asia Minor on the 16th and 27th respectively.

The monsoon low pressure trough over the Arabian gulf experienced northwestward elongation through Asia Minor five times during this month. Four of these elongations were due to the transit of the above mentioned four Mediterranean secondary depressions, while the 5th associated the transit of a northern low pressure trough north of the Black Sea on the 22nd.

As a result of these elongations of the monsoon trough through Asia Minor, the barometric pressure over Egypt showed five corresponding falls reaching its minima round the 3rd, 8th, 16th, 22nd and 27th respectively.

The northwestward elongations of the monsoon trough were followed by the extension of high pressure over East Mediterranean and NE Africa, causing corresponding rises in the barometric pressure over Egypt which reached its maxima round the 5th, 10th, 20th, 26th and 30th respectively.

The most important pressure systems over the synoptic upper air charts were :

— Two deep upper lows over North Russia and North Atlantic.

— Secondary upper troughs or lows through the Mediterranean and its vicinities, passing through East Mediterranean and north of Egypt on the 4th, 11th, 19th and 23rd.

SURFACE WIND

The prevailing winds during this month were light to moderate in general and blew from directions between NW, NE. Winds became fresh to strong during several days over scattered places mainly in the Western Desert, Upper Egypt and Red Sea districts.

TEMPERATURE

Maximum air temperature showed large departures above normal most of this month. Departures above normal were appreciable in general during the second & third heat waves and slight to moderate during the other heat waves. During the mild periods, maximum air temeprature was slightly below normal in general. Maximum air temperature values ranged generally between 30°C & 40°C in the northern parts, between 34°C & 44°C in the middle parts and between 40°C & 47°C in the southern parts.

The absolute maximum air temperature for the month was 47.9°C recorded at Siwa on the 15th.

Departure of minimum air temperature above normal was rather similar to departure of maximum air temperature, though it was less in magnitude. Minimum air temperature values ranged generally between 18°C & 24°C in the northern and middle parts and between 22°C & 28°C in the southern parts.

The absolute minimum air temperature for the month was 13.6°C recorded at Dakhla on the 7th.

PRECIPITATION

No rain was reported during this month allover the Republic.

Cairo, March 1972

Chairman (M. F. TAHA)

Board of Directors

Table A 1.—MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION

JUNE — 1969

STATION	Atmospheric Pressure (mbs) M.S.L.		Air Temperature °C									Relative Humidity %		Bright Sunshine Duration (Hours)			Piche Evaporation mms.
			Maximum		Minimum			Dry Bulb		Wet Bulb							
	Mean	D.F. Normal or Average	(A) Mean	D.F. Normal or Average	(B) Mean	D.F. Normal or Average	$\frac{A+B}{2}$	Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Total Actual	Total Possible	%	Mean
Sallum.	1011.9	—0.8	32.0	+2.5	21.5	+1.7	26.8	26.3	+1.6	19.8	+0.1	53	—8	—	—	—	10.0
Mersa Matruh (A)	1011.9	—0.7	30.2	+2.2	19.9	+1.7	25.0	24.9	+1.6	20.2	+0.6	63	—6	—	—	—	8.5
Alexandria . (A)	1011.5	—0.2	31.0	+2.6	20.9	+0.7	26.0	25.5	+1.3	20.8	+0.3	64	—7	366.7	424.1	86	7.8
Port Said.. . (A)	1010.4	—0.5	27.6	—0.9	23.1	+0.7	25.4	26.0	+1.0	21.9	+0.5	68	—3	366.2	424.1	86	8.9
El Arish.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta.	1011.3	+0.2	35.3	+1.3	19.8	+2.4	27.6	27.3	+1.4	20.2	+0.6	49	—4	372.4	422.4	88	8.4
Cairo. . . . (A)	1010.4	—0.4	35.8	+1.1	21.0	+0.9	28.4	28.2	+1.0	19.7	+0.1	42	—4	—	—	—	21.8
Fayoum.	—	—	38.3	+2.3	20.9	+1.0	30.0	29.6	+0.7	19.9	+0.4	36	—1	—	—	—	11.3
Minya. . . . (A)	1009.1	—0.6	38.4	+2.0	20.2	+1.2	29.3	29.4	+1.6	19.5	+0.5	35	—5	376.9	416.1	90	18.7
Assyout. . . (A)	1008.5	—0.4	39.2	+1.5	22.5	+0.9	30.8	30.9	+0.9	18.9	+0.8	27	+1	—	—	—	24.8
Luxor. . . . (A)	1006.4	—0.3	43.2	+2.2	23.5	+0.9	33.4	33.5	+0.9	20.2	+0.9	25	+2	—	—	—	14.2
Aswan. . . . (A)	1005.7	—0.4	43.3	+1.1	25.5	+1.3	34.4	34.5	+0.6	17.5	0.0	11	—1	—	—	—	32.2
Siwa.	1010.6	—1.2	39.1	+1.8	21.6	+2.2	30.4	30.8	+1.5	18.6	+0.3	26	—4	367.1	416.8	88	17.7
Bahariya.	1010.3	+0.4	39.1	+2.6	22.0	+2.5	30.6	31.0	+1.8	19.2	+0.8	28	—2	—	—	—	14.2
Farafra.	1011.3	—0.2	39.1	+1.4	21.6	+1.4	30.4	30.7	+1.2	17.9	+1.0	23	+1	—	—	—	18.9
Dakhla	1009.0	+0.2	40.2	+1.7	23.0	+0.5	31.6	32.1	+1.0	18.2	+1.0	19	+1	—	—	—	29.1
Kharga	1007.6	—0.2	41.5	+2.3	25.1	+1.9	33.2	33.6	+1.1	17.7	—0.3	18	—2	(327.2)	(354.9)	(84)	32.3
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada . . .	1006.4	—0.4	33.7	+1.7	25.4	+1.8	29.6	29.9	+1.3	21.4	+1.0	44	0	—	—	—	20.0
Quseir	1006.4	—0.7	32.4	0.0	26.6	+1.1	29.5	29.4	+0.2	21.9	+1.1	49	+5	—	—	—	21.8

Note.—Total number of records for the sunshine at Kharga was 26 days only.

Table A 2.– MAXIMUM AND MINIMUM AIR TEMPERATURES

JUNE — 1969

Station	Maximum Temperature °C									Grass Min. Temp.		Minimum Temperature °C							
	Highest	Date	Lowest	Date	No. of Days with Max-Temp.					Mean	Dev. From Normal	Highest	Date	Lowest	Date	No. of Days with Min. Temp.			
					>25	>30	>35	>40	>45							<10	<5	<0	<-5
Sallum	47.3	15	25.7	5	30	17	6	4	2	21.5	—	28.4	12	17.3	10	0	0	0	0
Mersa Matruh	45.2	15	25.7	9	30	8	4	3	1	—	—	27.0	15	15.8	6	0	0	0	0
Alexandri (A)	39.0	15	26.8	9	30	13	5	0	0	17.2	—	24.1	16	15.8	7	0	0	0	0
Port Said (A)	39.5	16	26.2	6	30	9	1	0	0	22.6	—	25.2	15	20.4	7	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	42.2	16	29.1	30	30	29	14	3	0	—	—	24.3	16	16.5	7	0	0	0	0
Cairo (A)	45.4	16	30.4	30	30	30	17	3	1	—	—	25.2	15	17.7	7	0	0	0	0
Fayoum	45.6	16	33.5	30	30	30	25	10	1	15.4	—	23.9	28	16.8	7	0	0	0	0
Minya (A)	45.6	16	32.7	30	30	30	27	9	1	18.4	—	24.0	17	15.6	7	0	0	0	0
Assyout (A)	47.4	16	33.0	30	30	30	27	13	2	20.7	—	27.9	16	18.7	7	0	0	0	0
Luxor (A)	47.5	17	39.1	19	30	30	30	26	7	19.6	—	26.8	28	20.1	20	0	0	0	0
Aswan (A)	46.8	16	39.2	25	30	30	30	28	7	—	—	28.6	29	22.6	30	0	0	0	0
Siwa	47.9	15	32.6	30	30	30	25	10	2	18.2	—	26.1	15	17.4	10	0	0	0	0
Bahariya	47.6	16	33.5	30	30	30	27	11	2	20.4	—	28.9	16	17.5	10	0	0	0	0
Farafra	46.6	16	33.5	30	30	30	27	13	1	21.5	—	26.4	16	17.9	7	0	0	0	0
Dakhla	47.1	16	35.2	30	30	30	30	15	2	—	—	31.6	15	13.6	7	0	0	0	0
Kharga	47.5	16	36.5	30	30	30	30	20	4	23.1	—	31.2	16	15.9	8	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	38.9	16	31.1	20	30	30	7	0	0	—	—	30.0	17	21.9	8	0	0	0	0
Quseir	36.6	15	30.3	26	30	30	4	0	0	23.3	—	29.4	17	24.0	1	0	0	0	0

Table A 3.—SKY COVER AND RAINFALL

JUNE — 1969

Station	Mean Sky Cover Oct.					Rainfall mms.										
	00 U.T.	06 U.T.	12 U.T.	18 U.T.	Daily Mean	Total Amount	Dev. From Normal	Max. Fall in one day		Number of Days with Amount of Rain						
								Amount	Date	<0.1	≥0.1	≥1.0	≥5.0	≥10	≥25	≥50
Sallum	1.1	1.0	0.9	1.8	0.8	0.0	—0.1	0.0	—	0	0	0	0	0	0	0
Mersa Matruh (A)	1.2	2.7	1.6	1.9	1.4	0.0	—3.1	0.0	—	0	0	0	0	0	0	0
Alexandria (A)	1.4	2.6	1.5	1.6	1.3	0.0	—Tr.	0.0	—	0	0	0	0	0	0	0
Port Said (A)	—	1.4	0.8	—	—	0.0	0.0	0.0	—	0	0	0	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	0.1	1.5	0.9	0.4	0.7	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Cairo (A)	0.8	2.0	0.7	0.4	0.8	0.0	—0.2	0.0	—	0	0	0	0	0	0	0
Fayoum	—	0.3	0.1	0.2	—	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Minya (A)	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Assyout (A)	0.1	0.0	0.1	0.0	0.0	0.0	—Tr.	0.0	—	0	0	0	0	0	0	0
Luxor (A)	0.0	0.1	0.3	0.3	0.1	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Aswan (A)	0.2	0.1	0.5	0.5	0.3	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Siwa	0.0	0.6	0.6	0.4	0.3	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Bahariya	0.0	0.1	0.2	0.0	0.0	0.0	—0.2	0.0	—	0	0	0	0	0	0	0
Farafra	—	0.0	0.0	0.0	—	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Dakhla	0.0	0.0	0.0	0.0	0.0	0.0	—Tr.	0.0	—	0	0	0	0	0	0	0
Kharga	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0.0	0.0	0.2	0.2	0.1	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Quseir	0.1	0.0	0.1	0.2	0.1	0.0	—Tr.	0.0	—	0	0	0	0	0	0	0

Table A 4.—DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA

JUNE — 1969

STATION	Precipitation				Frost	Thunderstorm	Mist Vis ≥ 1000 metres	Fog Vis < 1000 metres	Haze Vis ≥ 1000 metres	Thick Haze Vis < 1000 Metres	Dust or Sandrising Vis ≥ 1000 metres	Dust or Sandstorm Vis < 1000 metres	Gale	Clear Sky	Cloudy Sky
	Rain	Snow	Ice, Pellets	Hail											
Sallum	0	0	0	0	0	0	0	0	0	0	0	0	0	27	0
Mersa Matruh (A)	0	0	0	0	0	0	0	1	0	0	3	0	0	19	0
Alexandria (A)	0	0	0	0	0	0	0	0	1	0	0	0	0	19	0
Port Said (A)	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	0	0	0	0	0	0	0	0	0	0	0	0	0	29	0
Cairo (A)	0	0	0	0	0	0	8	0	3	0	0	0	0	27	0
Fayoum	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
Minya (A)	0	0	0	0	0	0	0	0	0	0	2	0	0	30	0
Assyout (A)	0	0	0	0	0	0	0	0	0	0	0	0	0	30	0
Luxor (A)	0	0	0	0	0	0	0	0	5	0	6	0	0	29	0
Aswan (A)	0	0	0	0	0	0	0	0	0	0	0	0	0	29	0
Siwa	0	0	0	0	0	0	0	0	0	0	0	0	0	30	0
Bahariya	0	0	0	0	0	0	0	0	0	0	0	0	0	30	0
Farafra	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
Dakhla	0	0	0	0	0	0	0	0	0	0	0	0	0	30	0
Kharga	0	0	0	0	0	0	0	0	0	0	12	0	0	30	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0	0	0	0	0	0	0	0	0	0	8	0	0	29	0
Quseir	0	0	0	0	0	0	0	0	0	0	0	0	0	30	0

Table A 5. –NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

JUNE — 1969

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurences of wind blowing from the ranges of directions indicated												All directions
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	
Sallum	13	0	1	1—10	45	85	62	46	59	11	11	9	15	25	70	89	527
				11—27	17	36	4	0	0	0	0	19	19	6	18	60	179
				28—47	0	0	0	0	0	0	0	0	6	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**62**	**121**	**66**	**46**	**59**	**11**	**11**	**28**	**34**	**31**	**88**	**149**	**706**
Mersa Matruh	26	0	0	1—10	57	28	13	19	28	29	13	8	24	75	56	74	424
				11—27	10	0	4	4	6	1	15	22	6	1	81	120	270
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**67**	**28**	**17**	**23**	**34**	**30**	**28**	**30**	**30**	**76**	**137**	**194**	**694**
Alexandria	9	0	19	1—10	41	27	8	10	22	24	21	5	10	63	180	220	631
				11—27	0	0	0	0	0	0	0	0	0	0	34	27	61
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**41**	**27**	**8**	**10**	**22**	**24**	**21**	**5**	**10**	**63**	**214**	**247**	**692**
Port Said	0	0	276	1—10	37	20	9	8	7	7	7	6	30	28	29	95	283
				11—27	7	0	0	0	1	0	0	0	1	19	65	68	161
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**44**	**20**	**9**	**8**	**8**	**7**	**7**	**6**	**31**	**47**	**94**	**163**	**444**
Tanta	41	0	0	1—10	75	29	28	27	4	3	18	35	64	117	157	116	673
				11—27	1	0	0	0	0	0	0	0	0	0	5	0	6
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**76**	**29**	**28**	**27**	**4**	**3**	**18**	**35**	**64**	**117**	**162**	**116**	**679**
Cairo	36	1	0	1—10	82	86	64	33	5	1	2	2	8	27	50	64	425
				11—27	64	93	22	2	7	2	0	0	2	2	9	56	258
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**146**	**179**	**86**	**35**	**12**	**3**	**2**	**2**	**10**	**29**	**59**	**120**	**683**
Fayoum	15	0	5	1—10	275	297	23	4	2	2	0	1	8	2	22	20	656
				11—27	5	39	0	0	0	0	0	0	0	0	0	0	44
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**280**	**336**	**23**	**4**	**2**	**2**	**0**	**1**	**8**	**2**	**22**	**20**	**700**
Minya	21	0	0	1—10	296	27	0	0	0	0	1	0	3	0	3	35	365
				11—27	313	18	0	0	0	0	0	0	0	0	0	3	334
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**609**	**45**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	**0**	**3**	**38**	**699**

Table A 5. (*contd.*)—**NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES**

JUNE — 1969

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	All directions
Assyout	0	0	0	1—10	18	8	4	0	0	0	1	1	36	191	235	60	554
				11—27	27	16	0	0	0	0	0	1	0	1	53	68	166
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**45**	**24**	**4**	**0**	**0**	**0**	**1**	**2**	**36**	**192**	**288**	**128**	**720**
Luxor	6		0	1—10	48	18	13	11	21	47	88	33	65	162	157	75	678
				11—27	3	4	2	0	0	0	0	0	0	8	19	0	36
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**51**	**22**	**15**	**11**	**21**	**47**	**88**	**33**	**65**	**170**	**176**	**75**	**714**
Aswan	2	6	0	1—10	110	172	8	2	1	4	3	4	7	38	35	139	523
				11—27	25	84	0	0	0	0	0	0	1	2	1	76	189
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**135**	**256**	**8**	**2**	**1**	**4**	**3**	**4**	**8**	**40**	**36**	**215**	**712**
Siwa	24	8	0	1—10	28	89	94	88	43	35	18	14	18	33	61	86	607
				11—27	2	27	6	3	10	1	7	0	0	1	12	12	81
				28—27	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**30**	**116**	**100**	**91**	**53**	**36**	**25**	**14**	**18**	**34**	**73**	**98**	**688**
Dakhla	2	1	0	1—10	61	50	13	8	3	2	18	38	43	54	80	155	525
				11—27	22	87	20	1	0	0	0	0	0	0	0	62	192
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**83**	**137**	**33**	**9**	**3**	**2**	**18**	**38**	**43**	**54**	**80**	**217**	**717**
Kharga	2	0	3	1—10	86	40	7	1	2	0	3	5	8	17	32	142	343
				11—27	276	24	2	0	0	0	0	0	0	0	1	69	372
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**362**	**64**	**9**	**1**	**2**	**0**	**3**	**5**	**8**	**17**	**33**	**211**	**715**
Hurghada	1	0	0	1—10	33	31	7	3	5	4	4	0	1	2	33	66	189
				11—27	189	52	0	0	0	0	0	0	0	0	36	244	521
				28—47	1	0	0	0	0	0	0	0	0	0	0	8	9
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**223**	**83**	**7**	**3**	**5**	**4**	**4**	**0**	**1**	**2**	**69**	**318**	**719**
Quscir	0	0	1	1—10	108	36	10	7	3	5	6	3	3	13	45	123	362
				11—27	217	7	0	0	0	0	0	0	0	0	0	133	357
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**325**	**43**	**10**	**7**	**3**	**5**	**6**	**3**	**3**	**13**	**45**	**256**	**719**

UPPER AIR CLIMATOLOGICAL DATA

Table B 1. MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES.

JUNE — 1969

Station	Pressure Surface Millibar	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh (A) 0000	Surface	28	*1008mb.	*1012mb.	*1005mb.	28	22.5	28.6	19.0	28	17.9
	1000	28	102	132	72	28	23.0	32.2	18.9	28	18.2
	850	28	1521	1575	1487	28	20.8	28.0	14.1	28	5.9
	700	28	3170	3243	3111	28	10.3	14.7	6.4	28	— 3.5
	600	28	4434	4515	4358	28	1.1	5.6	— 3.5	28	—11.8
	500	28	5873	5965	5788	28	— 9.0	— 4.0	—16.1	28	—22.1
	400	26	7564	7672	7468	26	—21.3	—15.6	—24.9	25	—33.7
	300	25	9620	9756	9506	25	—37.4	—30.9	—42.2	25	—48.4
	250	23	10846	11001	10734	23	—47.2	—41.4	—50.8	22	—57.1
	200	21	12290	12482	12170	21	—56.0	—48.6	—60.3	19	—64.8
	150	18	14099	14240	13967	18	—60.7	—55.6	—68.4	3	—71.4
	100	12	16571	16644	16500	12	—65.4	—59.6	—72.4	—	—
	70	10	18754	18900	18660	10	—61.7	—61.8	—68.2	—	—
	60	10	19697	19841	19624	10	—63.0	—60.8	—65.8	—	—
	50	8	20822	20983	20738	8	—60.6	—57.3	—64.6	—	—
	40	4	22250	22393	22158	4	—57.3	—56.8	—57.7	—	—
	30	3	24062	24106	23988	3	—55.0	—54.9	—55.2	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 0000 UT	Surface	30	*994mb.	*998mb.	*991mb.	30	23.5	29.6	19.8	30	13.7
	1000	—	—	—	—	—	—	—	—	—	—
	850	28	1504	1535	1475	28	21.2	26.0	13.6	26	1.2
	700	28	3155	3197	3107	28	11.2	16.4	7.2	26	— 9.0
	600	27	4420	4476	4362	27	2.1	7.0	— 2.9	26	—16.9
	500	27	5864	5923	5790	27	— 7.8	— 3.1	—13.1	26	—26.5
	400	26	7556	7629	7442	26	—20.8	—15.9	—27.1	25	—36.7
	300	23	9619	9719	9455	23	—36.0	—30.2	—41.2	21	—50.2
	250	22	10863	10985	10772	22	—44.6	—40.3	—49.6	20	—57.2
	200	20	12325	12462	12120	20	—53.6	—50.5	—58.3	19	—64.6
	150	17	14140	14268	13960	17	—60.8	—56.3	—65.5	5	—68.0
	100	15	16598	16674	16465	15	—70.3	—63.5	—75.8	—	—
	70	11	18720	18800	18620	11	—67.1	—62.3	—72.7	—	—
	60	9	19654	19726	19532	9	—62.7	—61.0	—65.9	—	—
	50	8	20793	20866	20655	8	—59.4	—58.0	—60.8	—	—
	40	7	22212	22279	22061	7	—56.7	—55.1	—58.1	—	—
	30	6	24076	24129	24023	6	—53.2	—50.3	—55.9	—	—
	20	5	26737	26791	26695	5	—47.4	—46.3	—48.2	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan (A) 0000	Surface	30	*984mb.	*986mb.	*981mb.	30	29.5	33.8	26.0	30	1.0
	1000	30	48	70	26	—	—	—	—	—	—
	850	30	1495	1520	1477	30	27.1	31.9	22.0	30	— 2.8
	700	30	3167	3210	3142	30	13.9	17.3	9.9	30	—11 7
	600	30	4443	4497	4404	30	4.4	7.6	1.2	30	—18.7
	500	30	5901	5970	5852	30	— 4.9	— 0.6	—11.3	30	—28.5
	400	30	7619	7693	7553	30	—13.2	—12.3	—21.5	30	—37.3
	300	29	9716	9823	9606	29	—31.9	—28.0	—35.7	27	—49.0
	250	28	10822	11104	10851	28	—40.6	—36.9	—44.8	27	—56.3
	200	28	12467	12604	12338	28	—50.7	—47.4	—53.0	27	—64.1
	150	27	14288	14430	14155	27	—63.5	—59.3	—65.2	1	—71.8
	100	26	16712	16829	16587	26	—73.3	—68.4	—78.9	—	—
	70	22	18812	18910	18690	22	—69.3	—65.3	—74.3	—	—
	60	15	19713	19809	19651	15	—64.1	—60.2	—66.4	—	—
	50	15	20869	20959	20830	15	—61.3	—57.5	—66.0	—	—
	40	9	22255	22324	22152	9	—57.5	—55.4	—60.7	—	—
	30	9	24090	24171	23956	9	—54.0	—51.2	—57.0	—	—
	20	7	26739	26836	26576	7	—46.9	—42.8	—50.0	—	—
	10	1	31284	—	—	1	—37.5	—	—	—	—

* The atmospheric pressure corrected to the elevation of the radiosonde stations.

UPPER AIR DATA

Table B 1. MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES.

JUNE — 1969

Climatological upper air data for Mersa Matruh, Helwan & Aswan upper air stations at 1200 U.T. are missing since number of days of release of radiosonde sets at these stations are less than the permissible number needed for calculating or processing monthly values.

Table B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE ; THE HIGHEST WIND SPEED IN THE UPPER AIR

JUNE — 1969

Climatological upper air data for Mersa Matruh, Helwan & Aswan upper air stations at 1200 U.T. are missing since number of days of release of radiosonde sets at these stations are less than the permissible number needed for calculating or processing monthly values.

Table B 3. NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

JUNE — 1969

Climatological upper air data for Mersa Matruh, Helwan & Aswan upper air stations at 1200 U.T. are missing since number of days of release of radiosonde sets at these stations are less than the permissible number needed for calculating or processing monthly values.

Table B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE. THE HIGHEST WIND SPEED IN THE UPPER AIR

JUNE — 1969

	Station	Freezing level									First tropopause									Highest wind speed			
		Mean			Highest			Lowest			Mean			Highest			Lowest						
		Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Direction (000—360)°	Speed in knots
		(N)	(N)	(N)							(N)	(N)	(N)										
0000 U.T.	M. Matruh (A)	4590 (28)	589 (28)	—13.4 (28)	5270	540	—27.9	3950	644	— 3.7	12652 (13)	180 (13)	—60.4 (13)	14200	151	—68.6	11850	189	—57.1	14120	—	245	112
	Helwan . . .	4739 (27)	566 (27)	—18.7 (26)	5500	525	—20.3	4070	624	—13.8	14334 (12)	153 (12)	—64.2 (12)	17920	81	—73.2	10400	260	—48.2	13645	106	225	142
	Aswan . . (A)	5111 (30)	552 (30)	—23.0 (30)	5700	516	—25.9	4570	590	—12.8	16868 (25)	98 (25)	—74.9 (25)	17920	81	—81.0	14670	139	—68.0	13625	164	240	92

N= The number of cases the element has been observed during the month.

Table B 3.—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

MERSA MATRUH (A)— JUNE 1969

Time	Pressure Surface (Millibar)	Wind between specified ranges of direction (000 - 360°)																						Number of Calm winds	Total Number of Observations (T N)	Mean Scalar wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Suface	3	7	0	—	0	—	0	—	1	9	2	9	3	9	1	20	1	2	9	6	7	12	1	10	0	28	9
	1000	3	10	0	—	0	—	1	7	1	14	2	10	2	10	1	26	0	—	3	11	9	14	5	11	1	[illegible]	[illegible]
	850	7	17	4	15	0	—	2	10	1	6	0	—	0	—	1	26	0	—	2	18	7	24	4	20	0	28	19
	700	1	34	0	—	0	—	1	13	0	—	1	9	0	—	1	12	2	26	7	26	6	29	9	25	0	[illegible]	[illegible]
	600	3	33	0	—	1	11	1	10	0	—	0	—	0	—	0	—	2	30	6	35	7	[illegible]	[illegible]	26	0	28	29
	500	2	22	0	—	1	18	0	—	1	4	0	—	0	—	0	—	2	42	8	38	7	28	7	28	0	28	30
	400	2	10	0	—	1	15	0	—	0	—	0	—	0	—	0	—	2	35	12	40	7	28	2	42	0	26	33
	300	1	35	0	—	1	15	0	—	0	—	0	—	1	4	0	—	2	28	12	54	7	41	1	52	0	25	43
	250	2	28	0	—	0	—	0	—	0	—	1	12	0	—	0	—	2	40	9	42	6	43	1	42	0	21	39
	200	1	19	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	19	13	51	4	48	1	58	0	21	46
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	43	11	55	1	43	0	—	0	18	50
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	11	5	38	2	38	3	30	0	—	0	11	33
	70	0	—	0	—	0	—	1	8	0	—	2	12	1	15	1	25	2	24	0	—	0	—	0	—	0	7	17
	60	0	—	1	10	1	8	2	12	0	—	0	—	0	—	0	—	0	—	0	—	1	14	0	—	0	5	11
	50	0	—	0	—	0	—	3	18	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	4	14
	40	0	—	0	—	0	—	1	27	1	10	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	18
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.
T N = The total number of cases the wind has been observed for all directions during the month.

Table B 3. (*contd.*)—**NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES**

HELWAN — JUNE 1969

Time	Pressure Surface (Millibar.)	Wind between specified ranges of direction (000—360°)																						Number of Calm winds	Total Number of Observations (T.N)	Mean Scalar wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U. T.	Surface	15	6	5	6	5	7	0	—	1	3	0	—	0	—	0	—	0	—	0	—	0	—	3	4	1	30	6
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	13	24	2	16	1	16	0	—	0	—	0	—	0	—	1	22	0	—	5	21	3	33	3	23	0	28	23
	700	5	39	0	—	0	—	0	—	0	—	0	—	0	—	4	16	5	23	5	24	6	27	3	22	0	28	26
	600	4	24	0	—	0	—	1	7	0	—	1	34	0	—	2	21	4	28	9	25	4	32	2	44	0	27	28
	500	0	—	0	—	0	—	0	—	1	10	2	14	0	—	0	—	8	30	10	28	2	26	2	19	0	25	28
	400	0	—	0	—	0	—	0	—	1	13	0	—	1	10	4	25	7	53	8	31	2	24	0	—	0	23	36
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	46	7	55	6	44	3	31	0	—	0	20	46
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	60	9	91	1	34	0	—	0	—	0	13	79
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	50	8	73	3	40	2	23	0	—	0	16	56
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	50	3	87	0	—	0	—	0	—	0	5	72
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	40	0	—	1	46	0	—	—	—	0	2	43
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

TN=The total number of cases the wind has been observed for all directions during the month.

Table B 3 (*contd.*)—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

ASWAN (A) — JUNE 1969

Time	Pressure Surface Millibar	Wind between specified ranges of direction (000—360)°																						Number of calm winds	Total number of observations (TN)	Mean scalar wind speed (knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
00.0 U.T.	Surface	12	10	7	8	0		0	—	1	7	0	—	0	—	0	—	0	—	2	10	2	10	6	12	0	30	10
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	8	19	9	14	3	15	0	—	0	—	0	—	0	—	0	—	0	—	1	11	4	12	4	10	0	29	15
	700	0	—	4	11	1	19	0	—	0	—	2	10	2	9	6	19	3	11	6	14	2	8	3	15	0	29	13
	600	2	10	3	11	1	5	0	—	0	—	0	—	0	—	10	18	7	24	2	19	2	10	1	20	0	28	17
	500	2	6	1	18	3	17	0	—	0	—	1	6	2	20	1	15	8	20	3	11	5	13	2	10	0	28	15
	400	2	17	1	10	0	—	2	13	0	—	2	5	0	—	3	13	8	27	7	20	2	14	0	—	0	27	19
	300	0	—	0	—	1	14	1	12	0	—	0	—	0	—	0	—	17	34	5	30	1	18	1	8	0	26	30
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	33	10	40	7	35	1	23	1	9	0	25	35
	200	0	—	0	—	0	—	0	—	0	—	0	—	1	21	4	25	15	47	5	48	0	—	0	—	0	25	43
	150	0	—	0	—	0	—	0	—	0	—	0	—	3	24	5	42	11	39	5	61	0	—	0	—	0	24	40
	100	1	3	1	15	0	—	1	10	1	15	2	22	8	17	3	23	3	19	2	20	0	—	0	—	0	22	18
	70	0	—	0	—	0	—	2	9	7	13	3	21	0	—	1	7	0	—	2	44	0	—	0	—	0	15	18
	60	0	—	0	—	3	9	6	11	0	—	1	6	0	—	0	—	0	—	0	—	0	—	0	—	0	10	10
	50	0	—	0	—	1	30	6	20	2	26	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	9	23
	40	0	—	0	—	2	24	6	25	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	8	25
	30	0	—	0	—	0	—	5	32	3	26	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	8	30
	20	0	—	0	—	0	—	4	24	1	41	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	5	27
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N. = The number of cases the wind has been observed from the range of direction during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

REVIEW OF AGRO-METEOROLOGICAL STATIONS

EL-KASR — JUNE 1969

This month was warmer than normal. The month was characterized by three heat waves on the 7th, during the period (11th — 15th) and on the 21st respectively. The second heat wave was the most excessive, and yielded the highest maximum air temperature for the month (45.5°C) on the 15th.

The extreme maximum soil temperatures were higher than the corresponding values of last June at depths between 2 and 50 cms., and the differences ranged between 2.8°C at 2 cms. and 0.2°C at both 5 and 10 cms. At 100 cms. depth the extreme maximum soil temperature was 0.3°C lower than last June. The extreme minimum soil temperatures were lower than last June at all depths between 2 and 100 cms. with differences ranging between 2.0°C at 20 cms. and 0.3°C at 100 cms.

The daily mean Pan evaporation was 1.5 mms. less than the corresponding value of June 1968. The daily mean actual duration of bright sunchine was slightly more (0.1 hour) than the corresponding value of June 1968.

TAHRIR — JUNE 1969

This month was slightly warmer than last June. The month was characterized by two excessive heat waves during the periods (1st — 8th) and (12th — 16th), and two light heat waves on the 21st and 27th. The second heat wave was the most excessive, and yielded the highest maximum air temperature for the month (43.8°C) on the 16th.

The extreme maximum soil temperatures were slightly lower (0.3°C) than the corresponding values of last June at both 2 and 100 cms. At other depths between 5 and 50 cms. the extreme soil maxima were higher than last June with small differences ranging between 1.0°C at 20 cms. and 0.1°C at 50 cms. The extreme minimum soil temperature was slightly higher (0.2°C) than last June at 2 cms. depth. At all other depths between 5 and 100 cms. the extreme soil minima were lower than last June with differences ranging between 1.5°C at 5cms. and 0.6°C at 20 cms.

The daily mean pan evaporation was 0.72 mms more than the corresponding value of June 1968. The daily mean actual duration of bright sunshine was 0.8 hour more than the corresponding value of June 1968.

BAHTIM — JUNE 1969

This month was slightly cooler than last June. The month was characterized by two excessive heat waves during the periods (1st — 8th) and (12th — 16th), and two light heat waves on the 22nd and 27th. The second heat wave was the most excessive, and yielded the highest maximum air temperature for the month (46.4°C) on the 16th.

The extreme maximum soil temperature was slightly lower (0.3°C) than last June at 2 cms. depth. At other depths between 5 and 100 cms., the extreme soil maxima were higher that last June apart from the 50 cms. depth where its value was the same as last June, the differences ranged between 2.6°C at 5 cms. and 0.5°C at 100 cms. The extreme minimum soil temperatures were lower than last June at depths between 2 and 10 cms. and also at 50 cms. with differences ranging between 2.2°C at 2 cms. and 0.6°C at 50 cms. At 20 cms. the extreme minimum soil temperature was the same as last June, and at 100 cms. it was slightly higher (0.3°C).

The daily mean Pan evaporation was 0.66 mm. less than the corresponding value of June 1968. The daily mean actual duration of bright sunshine was 0.8 hour more than June 1968.

KHARGA — JUNE 1969

This month was warmer than normal. The month was characterized by four heat waves during the periods (1st — 9th), (11th — 17th), (22nd — 23rd) and (26th — 28th). The second heat wave was the most excessive and yielded the highest maximum air temperature for the month (47.5°) on the 16th.

The extreme maximum soil temperatures were lower than last June at shallow depths between 2 and 10 cms. and the differences ranged between 1.1°C at 5 cms. and 0.5°C at 10 cms. At deeper depths between 20 and 100 cms. the extreme soil maxima were higher than last June with differences ranging between 0.1°C at 20 cms. and 0.6° at 50 cms. The extreme minimum soil temperatures were lower than last June at depths between 2 and 20 cms. with differences ranging between 5.0°C at 2 cms. and 0.6°C at 20 cms. At both 50 and 100 cms. depths the extreme soil minima were slightly higher (0.2°C) than last June.

The daily mean Pan evaporation was 0.72 mm. less than the corresponding value of June 1968. The daily mean actual duration of bright sunshine was 0.6 hour more than the corresponding value of June 1968.

Table C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

JUNE — 1969

STATION	Air Temperature (°C)					Mean Duration in hours of daily air temperature above the following values										
	Mean Max.	Mean Min.	Mean of the day	Night time mean	Day time mean	—5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C
El Kasr . . .	29.9	19.3	25.1	22.2	26.0	24.0	24.0	24.0	24.0	24.0	20.8	12.5	2.4	1.2	0.6	0.08
Tahrir	35.7	19.0	26.9	22.6	28.6	24.0	24.0	24.0	24.0	24.0	21.9	13.3	7.4	2.4	0.1	0.00
Bahtim	36.0	17.7	26.7	22.0	28.6	24.0	24.0	24.0	24.0	24.0	20.0	13.1	8.2	2.7	0.3	0.03
Kharga . . .	41.5	25.1	33.6	30.1	34.9	24.0	24.0	24.0	24.0	24.0	23.8	22.7	17.0	10.1	3.8	0.4

Table C 2.—EXTREME VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS

JUNE — 1969

STATION	Max. Temp. at 1½ metres (°C)				Min. Temp. at 1½ metres (°C)				Min. Temp. at 5 cms. above (°C)			
	Highest		Lowest		Highest		Lowest		Dry soil		Grass	
	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date
El Kasr	45.5	15	25.4	10	26.8	14	14.7	2	10.8	2	—	—
Tahrir	43.8	16	30.8	29,30	22.8	16	15.1	6	14.1	7	—	—
Bahtim	46.4	16	30.7	30	21.2	16	14.4	7	11.0	7	—	—
Kharga	47.5	16	36.5	30	31.2	16	15.9	8	13.0	8	—	—

Table C 3.—(SOLAR+SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY AND, VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION AND RAINFALL

JUNE — 1969

STATION	(Solar+Sky Radiation gm. cal/cm²	Duration of Bright Sunshine (hours)			Relative Humidity				Vapour pressure (mms)						Evaporation (mms)		Rainfall (mms)		
		Total Actual monthly	Total Possible monthly	%	Mean of day	1200 U.T.	Lowest	Date	Mean of day	1200 U.T.	Highest	Date	Lowest	Date	Piche	Pan class A	Total Amount Monthly	Max. Fall in one day	Date
El Kasr	578.3	327.2*	425.5	85	71	61	18	7	16.5	17.2	21.8	14	5.6	7	9.4	9.58	0.0	—	—
Tahrir .	704.0	377.7	422.3	89	59	33	17	8	14.5	13.0	20.5	22	8.1	8	10.7	11.68	0.0	—	—
Bahtim .	722.8	370.2	421.8	87	54	29	4	8	13.1	11.8	19.2	26	6.5	7	14.1	13.17	0.0	—	—
Kharga	598.4	327.2†	409.5	92	20	13	4	8	7.4	7.3	14.5	25	1.8	8	32.3	25.07	0.0	—	—

* Totol for 27 days. † Total for 26 days.

Table C 4. EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS IN DIFFERENT FIELDS

JUNE — 1969

STATION	Higheat (H) Lower (L)	Extreme soil temperature (°C) in dry field at different depths (cms.)								Extreme soil temperature (°C) in grass field at different depths (cms)							
		2	5	10	20	50	100	200	300	2	5	10	20	50	100	200	3
El Kasr	H	51.6	43.1	37.0	32.6	29.3	26.0	23.5	—	—	—	—	—	—	—	—	—
	L	24.3	22.5	21.8	24.0	25.4	23.1	23.2	—	—	—	—	—	—	—	—	—
Tahrir	H	56.4	50.6	43.8	38.2	32.6	30.3	27.7	26.3	—	—	—	—	—	—	—	—
	L	28.0	25.7	25.9	29.3	29.3	27.5	25.0	24.3	—	—	—	—	—	—	—	—
Bahtim	H	57.7	47.0	40.2	34.4	30.9	28.8	25.3	23.9	—	—	—	—	—	—	—	—
	L	27.9	27.4	27.5	29.9	27.6	26.2	23.7	23.2	—	—	—	—	—	—	—	—
Kharga	H	59.2	52.1	44.5	38.7	33.2	32.4	29.3	28.0	—	—	—	—	—	—	—	—
	L	19.5	24.2	29.1	32.8	32.6	30.1	28.0	27.3	—	—	—	—	—	—	—	—

Table C 5.—SURFACE WIND

JUNE — 1969

STATION	Wind Speed m/sec at 1½ metres			Days with surface wind speed at (10 metres)							Max, Gust 10 metres	
	Mean of the day	Night time mean	Day time mean	≥10 (knots)	≥15 (knots)	≥20 (knots)	≥25 (knots)	≥30 (knots)	≥35 (knots)	≥40 (knots)	Value (knots)	Date
El Kasr . . .	2.2	1.8	2.6	—	—	—	—	—	—	—	—	—
Tahrir	2.4	1.6	3.1	27	14	0	0	0	0	0	27	4
Bahtim	2.8	1.7	3.9	30	13	0	0	0	0	0	23	13
Kharga . . .	4.8	3.8	5.8	29	28	17	9	2	0	0	40	12

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Chairman of the Board of Directors

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THE ARAB REPULIC OF EGYPT

MONTHLY WEATHER REPORT

VOLUME 12 NUMBER 7

JULY, 1969

U.D.C. 551, 506.1 (62)

THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

PUBLICATIONS OF THE METEOROLOGICAL AUTHORITY OF THE ARAB REPUBLIC OF EGYPT—CAIRO

In fulfilment of its duties, the Egyptian Meteorological Authority issues serveral reports and publications on weather, climate and agro-meteorology. The principal publications are described on this page.

Orders for publications should be addressed to :

"Chairman of the Board of Directors, Meteor ological Authority, Kubri-el-Qubbeh — CAIRO".

THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Authority since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968 this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

As from 1st January 1972, the Daily Weather Report will not be issued or distributed because it does not serve no longer any good purpose as it used to be in the past. The Meteorological Authority is ready to supply the recipients of the Report with any information used to be included in it, if they so desire.

THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for Egypt.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of Egypt as well as monthly values of certain elements.

THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in March 1968 which brings normals and mean values up till 1960.

METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff of "The Meteorological Institute for Research and Training" and the Operational Divisions of the Meteorological Authority.

TECHNICAL NOTES

As from October 1970, the Meteorological Authority started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

CONTENTS

Note : For explanatory notes on tables please refer to Volume 12, Number 1 (January 1969).

GENERAL SUMMARY OF WEATHER CONDITIONS

JULY 1969

Normal Summer weather. Scattered early morning mist over Delta and Cairo areas

GENERAL DESCRIPTION OF WEATHER

The prevailing weather during this month was generally of the mild summer type in north of the Republic and hot in the southern parts. Two weak heat waves were experienced round the periods (6th — 8th) and (10th —12th) during which weather was hot in north of the Republic and excessively hot in the south.

Apart from local rising sand several days in the Western Desert and Red Sea districts, and early morning mist many days over scattered localities in Delta and Cairo areas, no weather of important significance was experienced.

PRESSURE DISTRIBUTION

The most outstanding features of pressure distribution during this month were :

— The Atlantic anticyclone and its eastward extension.

— Local anticyclones moving through Europe.

— Deep low pressure systems through North Europe associated sometimes with secondaries through Central Europe.

— A ridge of high pressure over Central Mediterranean and NE Africa.

— The complex monsoon low pressure system over the Arabian gulf, Arabia and North Sudan.

During this month, the monsoon trough over the Arabian gulf experienced slight deepening and northwestward elongations through Asia Minor four times. These elongations were favoured by the tranist of low pressure troughs or secondary lows through the Black Sea area and its vicinities. As a result of these elongations of the monsoon trough over the Arabian gulf, the barometric pressure over Egypt experienced four corresponding falls round the periods : (3rd — 4h), (7th — 9th), (17th—21st) and (27th —31st).

During the rest periods of the month, high pressure over Central Mediterranean and NE Africa extended slightly eastwards, and consequently the barometric pressure over Egypt showed corresponding rises.

The most important features of pressure distribution over the synoptic upper air charts were :

— Two deep upper lows over North Russia and North Atlantic.

— Secondary upper troughs or lows over the middle latitudes, passing through East Mediterranean on the 3rd, 8th, 19th and 31st.

— Upper high pressure belt over the subtropical latitudes.

SERFACE WIND

The prevailing winds during this month were generally light to moderate and blew from directions between NW, NE. Winds

became fresh to strong during several days over few scattered places mainly in the Western Desert and Red Sea districts.

Gale wind was reported at Aswan on the 14th.

TEMPERATURE

Air temperature was rather normal in the northern parts, below normal elsewhere apart from the second heat wave when it was above normal.

Maximum air temperature values ranged generally between 28° & 33°C in the northern parts, between 30° & 38°C in the middle parts and between 37° & 45°C in the southern parts.

The absolute maximum air temperature was 46.2°C recorded at Aswan on the 13th.

Minimum air temperature oscillated round normal, and its departures from normal were slight in general.

Minimum air temperature values ranged generally between 17° & 24°C in the northern and middle parts and between 24° & 28°C in the southern parts.

The absolute minimum air temperature was 16.0°C recorded at Shebin El Kom & Imbaba on the 1st and at Mallawi on the 16th.

PRECIPITATION

This month was rainless allover the Republic apart from the 13th when drops of rain fell over Balteam.

Chairman (M. F. TAHA)

Board of Directors

Cairo, March 1972

SURFACE DATA

Table A 1.—MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION

JULY — 1969

STATION	Atmospheric Pressure (mbs) M.S.L.		Air Temperature °C								Relative Humidity %		Bright Sunshine Duration (Hours)			Piche Evaporarion mms.
			Maximum		Minimum			Dry Bulb		Wet Bulb						
	Mean	D.F. Normal or Average	(A) Mean	D.F.Normal or Average	(B) Mean	D.F. Normal or Average	$\frac{A+B}{2}$	Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Total Actual	Total Possible	%	Mean
Sallum	1012.2	+1.9	30.0	—0.9	21.0	—0.3	25.5	25.1	—1.0	20.1	—1.3	61	— 3	—	—	—	9.0
Mersa Matruh. (A)	1012.2	+2.4	28.4	—0.8	20.4	+0.1	24.4	24.3	—0.7	20.9	—0.6	72	— 1	—	—	—	6.9
Alexandria (A)	1011.0	+2.5	29.2	—0.5	22.5	—0.1	25.9	25.3	—0.7	21.2	—1.3	67	— 6	377.1	432.3	87	7.2
Port Said. (A)	1009.5	+2.0	29.4	—1.0	23.3	—0.8	26.4	26.0	—0.7	22.3	—0.8	72	0	364.1	432.3	77	8.2
El Arish.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta.	1010.7	+2.6	31.9	—2.5	19.4	+0.1	25.6	25.1	—1.4	20.7	—0.7	66	+ 4	364.4	431.0	84	5.5
Cairo. (A)	1010.0	+2.0	32.9	—2.3	20.5	—1.0	26.7	26.0	—1.9	20.6	—0.7	59	+ 6	—	—	—	13.9
Fayoum.	—	—	35.9	—0.8	20.1	—1.4	28.0	27.7	—1.2	20.5	—0.3	49	+ 4	—	—	—	8.9
Minya. (A)	1008.7	+1.8	35.2	—1.5	19.0	—1.3	27.1	27.5	—1.0	19.8	—0.5	45	0	398.1	425.3	94	14.2
Assyout. (A)	1008.2	+1.4	34.9	—1 9	21.1	—1.2	28.0	28.0	—1.8	19.7	+0.3	47	+13	—	—	—	18.3
Luxor. (A)	1006.5	+1.7	39.6	—0.9	22.7	—0.9	31.2	31.3	—1.5	19.9	0	30	+ 5	—	—	—	13.1
Aswan. (A)	1006.2	+1.5	40.8	—0.3	24.7	0	32.8	32.7	—0.9	18.0	—0.1	17	+ 2	—	—	—	26.6
Siwa	1011.6	+1.9	35.6	—2.3	20.6	—0.1	28.1	28.5	—1.2	18.7	—0.7	34	0	387.9	427.7	91	16.8
Bahariya.	1010.5	+2.5	35.7	—1.2	20.3	—0.2	28.0	28.1	—1.3	19.2	—0.2	38	+ 2	—	—	—	11.8
Farafra.	1011.2	+1.8	35.6	—1.6	19.9	—1.4	27.8	28.2	—1.6	17.7	+0.1	31	+ 7	—	—	—	16.6
Dakhla.	1009.5	+2.7	36.8	—1.7	21.8	—1.1	29.3	29.4	—1.6	17.5	—0.4	24	+ 3	—	—	—	22.9
Kharga.	1008.1	+1.7	37.9	—1.5	23.7	+0.5	30.8	30.8	—0.8	18.1	+0.6	28	+ 2	386.4	418.9	92	25.1
Tor.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada.	1005.6	+1.2	32.4	—0.5	24.2	—0.7	28.3	28.8	—0.8	21.1	—0.6	48	+ 1	—	—	—	19.3
Quseir	1005.8	+0.9	31.4	—1.8	25.7	—0.6	28.6	28.9	—1.0	22.1	—0.1	53	+ 5	—	—	—	18.6

TABLE A2.— MAXIMUM AND MINIMUM AIR TEMPERATURE

JULY — 1969

Station	Maximum Temperature °C									Grass Min. Temp.		Minimum Temperature °C							
	Highest	Date	Lowest	Date	No. of Days with Max-Temp.					Mean	D. From Normal	Highest	Date	Lowest	Date	No. of Days with Min. Temp.			
					>25	>30	>35	>40	>45							<10	<5	<0	<-5
Sallum	34.4	10	25.6	15	31	13	0	0	0	20.5	—	24.9	7	18.8	2,15	0	0	0	0
Mersa Matruh . (A)	31.0	7	27.1	14	31	1	0	0	0	—	—	23.1	9	17.8	2	0	0	0	0
Alexandria . . . (A)	31.0	11	27.8	1	31	3	0	0	0	21.4	—	24.1	12	20.0	25	0	0	0	0
Port Said . . . (A)	32.0	22	27.5	16	31	8	0	0	0	22.9	—	24.5	13	21.5	21	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	34.8	11,12	28.9	15	31	28	0	0	0	—	—	22.0	22	16.8	1	0	0	0	0
Cairo . . . . . (A)	37.3	12	29.8	1	31	29	5	0	0	—	—	22.2	8,10	18.2	2	0	0	0	0
Fayoum	39.6	10,11,12	32.4	15	31	31	21	0	0	18 3	—	22.1	12	18.0	15	0	0	0	0
Minya . . . . . (A)	39.6	12	31.8	15	31	31	16	0	0	17.8	—	22.0	13	17.0	16	0	0	0	0
Assyout. . . . . (A)	38 5	12	32.4	14	31	31	13	0	0	19.4	—	23.5	22	18.4	1	0	0	0	0
Luxor . . . . . (A)	45 8	12	36.4	19	31	31	31	9	2	20.2	—	26.0	13	19.8	22	0	0	0	0
Aswan . . . . . (A)	46.2	13	38.0	28	31	31	31	18	1	—	—	28.0	13	22.1	1	0	0	0	0
Siwa	42.4	11	31.3	15	31	31	17	2	0	17.0	—	25.8	8	17.9	17	0	0	0	0
Bahariya	40.8	8	32.5	14,15	31	31	19	2	0	19.4	—	22.8	25	17.5	1	0	0	0	0
Farafra	41.1	12	32.4	1,15·17	31	31	18	1	0	19.5	—	22.8	12,26	17.8	4,22	0	0	0	0
Dakhla	43.2	12	33.4	15,16	31	31	23	4	0	—	—	27.5	13	16.7	21	0	0	0	0
Kharga	44.3	12	34.4	15	31	31	28	4	0	22.2	—	27.8	12	17.8	21	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	34.6	22	30.3	16	31	31	0	0	0	—	—	27.6	11	22.8	5	0	0	0	0
Qusur	33.4	22	30.0	2	31	30	0	0	0	22.7	—	27 2	25	23.4	30	0	0	0	0

TABLE A 3.—SKY COVER AND RAINFALL

JULY — 1969

Station	Mean Sky Cover Oct.					Rainfall mms.										
	00 U.T.	06 U.T.	12 U.T.	18 U.T.	Daily Mean	Total Amount	D. From Normal	Max. Fall in one day		Number of Days with Amount of Rain						
								Amount	Date	<0.1	≥0.1	≥1.0	≥5.0	≥10	≥25	≥50
Sallum	0.1	0.8	0.7	0.1	0.5	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Mersa Matruh (A)	0.9	2.3	1.1	1.6	1.3	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Alexandria (A)	3.4	3.0	3.2	2.4	2.9	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Port Said (A)	—	1.7	0.6	—	—	0.0	0.0	0.0	—	0	0	0	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	0.6	2.1	1.5	0.1	1.0	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Cairo (A)	1.3	3.9	0.9	0.5	1.4	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Fayoum	—	2.6	0.7	0.9	—	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Minya (A)	0.0	1.2	0.5	0.4	0.4	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Assyout (A)	0.0	0.5	0.2	0.2	0.2	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Luxor (A)	0.1	0.5	0.6	0.4	0.3	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Aswan (A)	0.3	0.4	0.5	0.4	0.4	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Siwa	0.2	0.1	0.8	0.2	0.3	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Bahariya	0.1	0.3	0.4	0.4	0.3	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Farafra	—	0.0	0.1	0.0	—	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Dakhla	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Kharga	0.0	0.2	0.3	0.4	0.2	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Quseir	0.0	0.2	0.4	0.2	0.2	0.0	0.0	0.0	—	0	0	0	0	0	0	0

Table A 4. --DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA.

JULY — 1969

Station	Precipitation				Frost	Thunderstorm	Mist Vis ≥1000 metres	Fog Vis <1000 Metres	Haze Vis ≥1000 Metres	Thick Haze Vis <1000 Metres	Dust or Sandrising Vis ≥1000 Metres	Dust or Sandstorm Vis <1000 Metres	Gale	Clear Sky	Cloudy Sky
	Rain	Snow	Ice. Pellets	Hail											
Sallum	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0
Mersa Matruh (A)	0	0	0	0	0	0	4	1	0	0	0	0	0	22	0
Alexandria (A)	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0
Port Said (A)	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	0	0	0	0	0	0	5	0	0	0	0	0	0	26	0
Cairo (A)	0	0	0	0	0	0	16	2	5	0	0	0	0	23	0
Fayoum	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
Minya (A)	0	0	0	0	0	0	1	0	0	0	0	0	0	30	0
Assyout (A)	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0
Luxor (A)	0	0	0	0	0	0	0	0	0	0	0	0	0	27	0
Aswan (A)	0	0	0	0	0	0	0	0	0	0	0	1	1	28	0
Siwa	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0
Bahariya	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0
Farafra	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
Dakhla	0	0	0	0	0	0	0	0	0	0	12	0	0	31	0
Kharga	0	0	0	0	0	0	0	0	0	0	9	0	0	30	0
Tor	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghda	0	0	0	0	0	0	0	0	0	0	8	0	0	31	0
Quseir	0	0	0	0	0	0	0	0	0	0	0	0	0	30	0

Table A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

JULY — 1969

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	All directions
Sallum	2	0	0	1—10	40	135	24	6	9	1	0	1	1	10	49	157	433
				11—27	20	69	6	0	0	0	0	0	0	0	31	183	309
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**60**	**204**	**30**	**6**	**9**	**1**	**0**	**1**	**1**	**10**	**80**	**340**	**742**
Mersa Matruh	4	0	0	1—10	32	2	1	0	0	1	1	1	13	118	100	137	406
				11—27	46	0	0	0	0	0	0	0	0	0	61	227	334
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**78**	**2**	**1**	**0**	**0**	**1**	**1**	**1**	**13**	**118**	**161**	**364**	**740**
Alexandria	0	0	26	1—10	5	0	0	0	0	1	4	6	6	47	218	160	447
				11—27	0	0	0	0	0	0	0	0	0	6	164	101	271
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**5**	**0**	**0**	**0**	**0**	**1**	**4**	**6**	**6**	53	**382**	**261**	**718**
Port Said	0	0	22	1—10	17	3	0	0	0	0	0	12	76	94	105	161	468
				11—27	**0**	0	**0**	0	0	0	0	0	4	26	89	135	254
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**17**	**3**	**0**	**0**	**0**	**0**	**0**	**12**	**80**	**120**	**194**	**296**	**722**
Tanta	27	0	0	1—10	8	0	0	0	0	0	43	107	96	161	236	62	713
				11—27	**0**	0	0	0	0	0	0	0	0	0	3	1	4
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	8	**0**	**0**	**0**	**0**	**0**	**43**	**107**	**96**	**161**	**239**	**63**	**717**
Cairo	68	0	10	1—10	124	41	20	0	0	1	0	0	2	36	95	180	499
				11—27	106	3	0	0	0	0	0	0	0	1	4	53	167
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**230**	**44**	**20**	**0**	**0**	**1**	**0**	**0**	**2**	**37**	**99**	**233**	**666**
Fayoum	11	0	0	1—10	330	278	4	**1**	0	0	0	0	0	11	25	35	704
				11—27	1	28	0	0	0	0	0	0	0	0	0	**0**	29
				28—47	0	0	0	0	0	0	0	0	0	0	0	**0**	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**351**	**306**	**4**	**1**	**0**	**0**	**0**	**0**	**0**	**11**	**25**	**35**	**733**
Minya	13	3	0	1—10	299	49	1	0	0	0	0	0	1	0	3	57	410
				11—27	313	5	0	0	0	0	0	0	0	0	0	0	318
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**612**	**54**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	**57**	**728**

Table A 5 (*contd.*)—**NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES**

JULY — 1969

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	All directions
				1—10	3	0	0	0	0	0	1	1	30	204	241	131	611
				11—27	3	0	0	0	0	0	0	0	0	2	71	57	133
Asyout	0	0	0	28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**6**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**30**	**206**	**312**	**188**	**744**
				1—10	12	10	5	11	5	59	119	74	88	127	147	57	714
				11—27	0	0	0	0	0	0	0	0	0	1	9	0	10
Louxor	8	4	8	28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**12**	**10**	**5**	**11**	**5**	**59**	**119**	**74**	**88**	**128**	**156**	**57**	**724**
				1—10	200	10	1	1	1	4	17	3	6	28	84	169	524
				11—27	66	0	0	0	0	0	0	0	0	3	37	109	215
Aswan	2	2	1	28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**266**	**10**	**1**	**1**	**1**	**4**	**17**	**3**	**6**	**31**	**121**	**278**	**739**
				1—10	63	126	49	23	5	2	1	5	5	24	90	199	592
				11—27	19	47	8	0	1	0	0	0	0	2	11	60	148
Siwa	4	0	0	28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**82**	**173**	**57**	**23**	**6**	**2**	**1**	**5**	**5**	**26**	**101**	**259**	**740**
				1—10	45	17	8	1	2	5	5	15	46	92	141	162	539
				11—27	34	7	0	0	0	0	0	0	0	0	3	132	176
Dakhla	7	0	0	28—47	4	0	0	0	0	0	0	0	0	8	10	0	22
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**83**	**24**	**8**	**1**	**2**	**5**	**5**	**15**	**46**	**100**	**154**	**294**	**737**
				1—10	64	9	5	10	2	1	0	1	3	19	84	172	370
				11—27	182	1	0	0	0	0	0	0	1	0	20	166	370
Kharga	4	0	0	28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**246**	**10**	**5**	**10**	**2**	**1**	**0**	**1**	**4**	**19**	**104**	**338**	**740**
				1—10	6	14	6	1	1	10	2	1	2	7	47	31	128
				11—27	183	54	0	0	0	0	0	0	0	1	54	280	572
Hurghada	0	0	2	28—47	20	0	0	0	0	0	0	0	0	0	0	22	42
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**209**	**68**	**6**	**1**	**1**	**10**	**2**	**1**	**2**	**8**	**101**	**333**	**742**
				1—10	104	60	10	3	2	7	9	5	12	27	50	134	423
				11—27	236	18	0	0	0	0	0	0	0	0	0	60	314
Quseir	5	0	2	28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				>48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All=speeds	**340**	**78**	**10**	**3**	**2**	**7**	**9**	**5**	**12**	**27**	**50**	**194**	**737**

UPPER AIR CLIMATOLOGICAL DATA

Table B 1.—MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

JULY — 1969

Station	Pressure Surface Millibar	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh 0000 U.T.	Surface	26	*1009mb	*1012mb	*1006mb	26	22.9	24.6	20.2	26	19.7
	1000	26	106	132	80	26	22.7	24.9	20.1	26	19.5
	850	26	1511	1552	1474	26	17.2	24.1	8.2	26	5.4
	700	26	3155	3223	3105	26	11.8	14.2	7.2	26	— 3.0
	600	26	4430	4501	4377	26	4.8	7.7	1.8	25	—10.4
	500	25	5894	5962	5829	25	— 4.0	— 0.5	— 7.8	25	—18.8
	400	25	7622	7692	7562	25	—14.7	— 9.4	—19.8	25	—28.5
	300	24	9746	9806	9661	24	—28.7	—25.0	—33.3	22	—40.9
	250	23	11030	11048	10950	23	—37.2	—27.2	—40.6	18	—52.2
	200	21	12513	12602	12408	20	—48.8	—44.5	—50.6	18	—59.5
	150	18	14371	14447	14213	18	—61.8	—57.6	—64.4	1	—68.5
	100	17	16802	16902	16614	17	—75.8	—72.4	—80.0	—	—
	70	11	18929	18980	18800	11	—70.9	—63.3	—74.5	—	—
	60	11	19837	20025	19697	11	— 65.9	—58.8	—72.0	—	—
	50	8	20969	21167	20878	8	—61.4	—59.0	—65.1	—	—
	40	4	22338	22406	22268	4	—55.8	—46.1	—60.2	—	—
	30	3	24199	24254	24146	3	—55.6	—53.9	—58.0	—	—
	20	1	26761	—	—	1	—51.5	—	—	—	—
	10	~	—	—	—	—	—	—	—	—	—
Helwan 0000 U.T.	Surface	30	*994mb	*996mb	*990mb	30	21.8	23.6	19.5	30	17.9
	1000	26	89	112	64	—	—	—	—	—	—
	850	29	1490	1510	1454	29	19.2	24.7	14.1	27	— 5.0
	700	29	3138	3182	3088	29	13.0	16.4	9.0	25	—14.8
	600	29	4416	4475	4348	29	5.9	10.0	1.5	25	—20.4
	500	29	5885	5953	5788	29	— 2.8	0.0	— 6.6	25	—27.2
	400	26	7619	7668	7513	26	—13.3	— 9.7	—17.4	23	—34.6
	300	25	9749	9806	9640	25	—27.6	—25.1	—31.0	22	—45.7
	250	23	11039	11105	10944	23	—37.0	—30.7	—40.4	20	—53.2
	200	23	12545	12615	12453	23	—48.3	—45.3	—53.7	18	—62.7
	150	17	14377	14457	14260	17	—61.8	—60.2	—64.0	—	—
	100	16	16800	16883	16678	16	— 75.0	—66.0	—79.0	—	—
	70	14	18864	19020	18700	14	—70.9	—68.3	—82.5	—	—
	60	12	19796	19900	19711	12	—64.8	—63.0	—68.2	—	—
	50	10	20919	21031	20837	10	—61.0	—58.5	— 63.9	—	—
	40	7	22312	22399	22249	7	— 57.3	—56.0	—58.4	—	—
	30	6	24138	24179	24089	6	—53.0	—50.5	—55.7	—	—
	20	2	26760	26801	26718	2	—51.1	—50.6	—51.6	—	—
	10	~	—	—	—	—	—	—	—	—	—
Aswan 0000 U.T.	Surface	31	*984mb	*986mb	*982mb	31	27.9	32.0	25.0	31	5.8
	1000	31	51	70	33	—	—	—	—	—	—
	850	31	1487	1502	1467	31	25.0	29.8	21.2	31	0.2
	700	31	3154	3186	3113	31	13.6	18.1	7.2	31	— 8.6
	600	31	4432	4472	4378	31	5.1	9.3	1.6	31	—14.0
	500	31	5896	5952	5834	31	— 3.4	0.1	— 8.0	31	—22.6
	400	31	7634	7704	7595	31	—12.6	— 9.5	—15.3	31	—33.0
	300	30	9770	9859	9713	30	—27.3	—23.2	—30.1	30	—44.5
	250	29	11058	11153	10996	29	—37.1	—34 2	—40.1	29	—50.7
	200	28	12565	12662	12492	28	—48.6	—45.2	—50.8	27	—61.7
	150	26	14401	14521	14307	26	—62.5	—58.9	—65.8	1	—69.7
	100	23	16806	16960	16648	23	—76.8	—72.0	—80.2	—	—
	70	17	18890	19030	18745	17	—70.5	—67.3	—75.2	—	—
	60	12	19810	19908	19708	12	—65.1	—61.3	—68.8	—	—
	50	12	20931	21026	20834	12	—62.0	—58.9	—66.4	—	—
	40	8	22318	22426	22238	8	—58.6	—56.9	—62.3	—	—
	30	8	24159	24241	24088	8	—53.9	—50.7	—56.3	—	—
	20	5	26764	26811	26669	5	—48.6	—44.1	—54.0	—	—
	10	1	31193	—	—	1	—48.1	—	—	—	—

N — The number of times the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde stations.

UPPER AIR CLIMATOLOGICAL DATA

Table B1 (*contd.*)—MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

JULY — 1969

Climatological upper air data for Mersa Matruh, Helwan & Aswan upper air stations at 1200 U.T. are missing since number of days of release of the radiosonde sets at these stations are less than the permissible number needed for calculating or processing monthly values.

Table B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE; THE HIGHEST WIND SPEED IN THE UPPER AIR

JULY — 1969

	Station	Freezing Level									First Tropopause									Highest wind speed			
		Mean			Highest			Lowest			Mean			Highest			Lowest						
		Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Direction (000—360)°	Speed in Knots
		(N)	(N)	(N)							(N)	(N)	(N)										
0000 UT	Mersa Matruh(A)	5314 (25)	540 (25)	—15.1 (25)	5870	503	—15.5	4700	578	— 8.8	16986 (15)	97 (15)	—76.2 (15)	18090	81	—73.0	15560	120	—72.9	13055	—	252	105
	Helwan	5402 (29)	531 (29)	—26.0 (25)	5898	500	—20.2	4530	591	—19.2	16698 (14)	102 (14)	—74.9 (14)	18000	82	—79.3	14930	138	—64.3	14500	144	240	110
	Aswan . . A)	5284 (31)	540 (31)	—18.1 (31)	5940	499	—23.4	4640	583	—12.5	16913 (17)	99 (17)	—77.3 (17)	18510	76	—80.0	15980	115	—75.4	32950	09	100	85

N = The number of cases the element has been observed during the month.

TABLE B 3.— NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

MERSA MATRUH (A) — JULY 1969

Time	Pressure Surface Millibar	Wind between ranges of direction (000—360)°																						Number of calm winds	Total number of observations (TN)	Mean scalar wind speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	1	10	1	7	0	—	0	—	0	—	0	—	0	—	0	—	1	8	9	8	3	9	10	11	1	26	9
	1000	2	12	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	12	11	13	12	15	0	26	14
	850	13	18	2	11	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	33	2	17	8	16	0	26	17
	700	6	2	2	11	0	—	0	—	0	—	0	—	0	—	0	—	1	11	0	—	12	19	5	12	0	26	18
	600	5	18	0	—	0	—	0	—	0	—	0	—	0	—	1	15	1	14	6	18	9	17	4	12	0	26	17
	500	1	10	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	17	13	23	4	18	4	22	0	25	20
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	18	6	38	11	30	3	30	3	26	0	25	31
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	31	12	47	6	40	3	29	0	—	0	24	41
	250	0	—	0	—	0	—	0	—	0	—	0	—	1	15	3	35	10	42	6	45	2	32	0	—	0	22	40
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	38	9	45	3	39	0	—	0	—	0	19	42
	150	0	—	0	—	0	—	0	—	0	—	0	—	1	33	8	46	6	45	2	28	1	15	0	—	0	18	41
	100	0	—	0	—	0	—	0	—	0	—	0	—	3	35	5	26	3	27	4	25	0	—	0	—	0	15	28
	70	0	—	0	—	6	—	4	17	2	14	2	23	0	—	1	21	0	—	0	—	0	—	0	—	0	9	18
	60	0	—	0	—	0	—	3	20	2	28	0	—	1	23	0	—	0	—	0	—	0	—	0	—	0	6	23
	50	0	—	0	—	2	32	3	29	1	30	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	6	30
	40	0	—	0	—	0	—	2	36	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	36
	30	0	—	0	—	0	—	2	44	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	44
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

TABLE B 3 (*contd.*)—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

HELWAN — JULY 1969

Time	Pressure Surface (Millibar.)	Wind between ranges of direction (000–360)°																						Number of Calm winds	Total Number of Observations (TN)	Mean Scalar wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(θ) m			
0600 U.T.	Surface	16	6	1	12	2	3	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	3	10	5	0	30	6
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	9	20	3	18	1	25	1	6	1	13	0	—	0	—	0	—	0	—	5	16	3	14	6	20	0	29	17
	700	2	16	0	—	—	—	—	—	—	—	—	—	2	10	2	11	5	11	4	22	6	10	8	15	0	29	14
	600	4	10	0	—	0	—	0	—	1	8	0	—	1	23	5	16	5	18	4	28	6	11	3	8	0	29	15
	500	0	—	1	25	1	5	0	—	2	6	0	—	1	39	8	24	5	29	4	24	2	18	3	12	0	27	22
	400	0	—	1	5	0	—	0	—	0	—	2	34	2	32	2	20	8	26	5	28	3	32	2	13	0	25	26
	300	1	11	0	—	1	16	0	—	0	—	1	46	3	29	3	34	12	34	2	46	0	—	1	13	0	24	35
	250	2	26	0	—	0	—	1	14	0	—	2	28	5	28	2	48	8	47	1	81	1	18	0	—	0	22	38
	200	0	—	1	5	0	—	1	14	1	24	1	38	5	33	1	4	6	50	0	—	0	—	1	40	0	17	35
	150	1	47	0	—	0	—	0	—	2	20	1	38	4	38	1	42	3	68	0	—	0	—	1	8	0	13	41
	100	0	—	0	—	0	—	0	—	1	45	2	48	1	10	0	—	1	42	0	—	0	—	1	43	0	6	39
	70	0	—	0	—	1	40	1	41	1	54	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	3	45
	60	0	—	0	—	0	—	3	34	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	3	34
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

TN = total number of cases the wind has been observed for all directions during the month.

TABLE B 3 (*contd.*)—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

ASWAN (A)— JULY 1969

Time	Pressure Surface (Millibar)	Wint between ranges of direction (000—360)°																						Number of calm winds	Total number of observations (TN)	Mean Scalar wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	7	9	3	11	0	—	0	—	0	—	0	—	0	—	1	5	0	—	0	—	7	9	12	10	1	31	9
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	2	18	4	10	0	—	0	—	1	5	0	—	0	—	1	11	3	10	6	11	5	13	6	12	0	28	11
	700	0	—	0	—	1	4	0	—	2	10	3	13	2	21	5	16	7	20	5	16	2	8	1	7	0	28	15
	600	1	1	0	—	1	4	0	—	0	—	1	17	5	10	7	15	8	21	3	8	2	7	0	—	0	28	14
	500	0	—	0	—	1	8	5	6	5	11	2	18	2	14	2	7	6	13	1	15	2	12	1	5	0	27	11
	400	4	4	3	12	4	24	3	9	4	8	3	16	0	—	1	5	0	—	0	—	2	8	3	12	0	27	12
	300	1	11	0	—	6	17	6	19	5	10	2	10	0	—	2	8	1	6	0	—	1	10	1	5	0	25	13
	250	1	12	0	—	2	18	6	18	8	19	1	12	1	15	0	—	0	—	1	18	0	—	2	4	0	22	16
	200	0	—	0	—	2	20	2	19	11	23	3	18	1	23	1	16	0	—	0	—	0	—	0	—	0	20	21
	150	0	—	0	—	1	24	2	21	13	34	3	23	1	35	0	—	0	—	0	—	0	—	0	—	0	20	30
	100	0	—	0	—	0	—	4	36	15	45	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	19	43
	70	0	—	0	—	0	—	7	28	4	33	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	11	30
	60	0	—	0	—	0	—	8	31	2	28	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	10	30
	50	0	—	0	—	2	34	6	38	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	8	33
	40	0	—	0	—	2	41	5	37	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	7	38
	30	0	—	0	—	0	—	7	47	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	7	47
	20	0	—	0	—	1	60	1	52	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	56
	10	0	—	0	—	0	—	1	65	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	65

N = The number of cases the element has been observed during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

REVIEW OF AGRO-METEOROLOGICAL STATIONS

EL KASR — JULY 1969

This month was slightly cooler than last July. The daily maximum air temperatures were slightly round normal. The highest maximum air temperature for the month (29.6°C) was reported on the 7th.

The extreme maximum soil temperatures were lower than the corresponding values of last July at all depths between 2,100 cm. and the differences ranged between 2.3°C at 2 cm. and 0.9°C at 100 cm. The extreme maximum soil temperature were also lower than the corresponding values of last July at all depths and the differences ranged between 1.3°C at 20 cm. and 0.2°C at 100 cm.

The daily mean pan evaporation was 1.17 mm. less than the corresponding value of July 1968. The daily mean actual duration of bright sunshine was 0.1 hour more than July 1968.

TAHRIR — JULY 1969

This month was cooler than last July. The daily maximum air temperatures were below average most of the month. Three light heat waves occurred on the 8th, during the periods (10th—12th) and (21st—23rd) respectively. The highest maximum air temperature for the month (35.7°C) was reported on the 8th.

The extreme maximum soil temperatures were lower than the corresponding values of last July at all depths between 2,100 cm. and the differences ranged between 3.1°C at 2 cm. and 1.5°C at 100 cm. The extreme minimum soil temperatures were also lower than the corresponding values of last July at all depths ; the differences ranged between 0.5°C at2 cm. and 1.6°C at 20 cm.

The daily mean pan evaporation was 0.08 mm. more than the corresponding value of July 1968. The daily mean actual duration of bright sunshine was 0.3 hour more than July 1968.

BAHTIM — JULY 1969

This month was cooler than last July. The daily maximum air temperatures were below average most of the month. A light heat wave occurred during the period (10th—12th) yielding the highest maximum air temperature for the month (36.7°C) on the 12th.

The extreme maximum soil temperatures were lower than the corresponding values of last July at depths between 2,50cm. and the differences ranged between 2.9°C at 5cm. and 0.6°C at 50cm. At 100cm. depth the extreme maximum soil temperature was slightly higher (0.2°C) than last July. The extreme minimum soil temperatures were also lower than last July at depths between 2,50 cm. and the differences ranged between 1.5°C at 5 cm. and 0.4°C at 50 cm. At 100 cm. depth the extreme minimum soil temperature was 0.4°C higher than last July.

The daily mean pan evaporation was 1.09 mm. less than the corresponding value of July 1968. The daily mean actual duration of bright sunshine was .1 hour more than July 1968.

KHARGA — JULY 1969

This month was cooler than last July. The daily maximum air temperatures were below normal most of the month. Two heat waves occurred on the 8th and during the period (11th-13th) respectively. The second heat wave yielded the highest maximum air temperature for the month (44.3°C) on the 12th.

The extreme maximum soil temperatures were lower than the correspondig values of last July at all depths between 2,100 cm. and the differences ranged between 2.6°C at 5 cm. and 0.6°C at 100cm. The extreme minimum soil temperatures were also lower than the corresponding values of last July at all depths, and the differences ranged between 1.2°Cat 2 cm. and 0.1°C at 100 cm.

The daily mean pan evaporation was 1.21 mm, more than the corresponding value of July 1968. The daily mean actual duration of bright sunshine was 0.7 hour more than July 1968.

Table C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND
JULY — 1969

STATION	Air Temperature (°C)					Mean Duration in hours of daily air temperature above the following values.									
	Mean Max.	Mean Min.	Mean of the day	Night time mean	Day time mean	-5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C
El Kasr	28.3	19.9	24.8	22.6	26.4	24.0	24.0	24.0	24.0	24.0	23.1	10.9	0.0	0.0	0.0	0.0
Tahrir.....	32.8	19.7	25.5	23.8	28.1	24.0	24.0	24.0	24.0	24.0	22.4	11.8	4.6	0.0	0.0	0.0
Bahtim	32.7	18.0	24.8	21.0	27.9	24.0	24.0	24.0	24.0	24.0	19.5	11.2	4.6	0.1	0.0	0.0
Kharga	37.9	23.7	31.0	28.2	33.5	24.0	24.0	24.0	24.0	24.0	23.9	21.7	13.1	5.4	0.7	0.0

Table C 2.— EXTREME VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS.
JULY — 1969

STATION	Max. Temp. at 1½ metres (°C)				Min. Temp. at 1½ metres (°C)				Min. Temp. at 5 cms. above (°C)			
	Highest		Lowest		Highest		Lowest		Dry soil		Grass	
	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date
El Kasr.....	29.6	7	27.0	15	22.6	9	16.4	2,6	13.1	6	—	—
Tahrir	35.7	8	29.3	15	22.5	22	16.6	1	14.8	1	—	—
Bahtim	36.7	12	29.2	15	21.1	10	15.3	1	12.2	1	—	—
Kharga	44.3	12	34.4	15	27.8	12	17.8	21	16.0	21	—	—

Table C 3 —(SOLAR+SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL.
JULY — 1969

STATION	(Solar+Sky) Radiation gm. cal/cm²	Duration of Bright Sunshine (hours)			Relative Humidity. %				Vapour pressure (mms)						Evaporation (mms)		Rainfall (mms)		
		Total Actual monthly	Total Possible monthly	%	Mean of day	1200 U.T.	Lowest	Date	Mean of day	1200 UT	Highest	Date	Lowest	Date	Piche	Pan class (A)	Total Amount Monthly	Max. Fall in one day	Date
El Kasr	579.1	390.8	433.8	90	75	67	33	7	17.6	18.7	22.6	11	10.1	8	8.4	10.23	0.0	0.0	—
Tahrir.....	713.2	390.1	430.9	90	67	42	25	8	15.8	14.6	19.9	11	10.1	20	8.2	10.85	0.0	0.0	—
Bahtim	710.2	359.5	429.9	84	70	44	28	8	15.8	15.4	20.0	10	11.6	1	8.4	9.59	0.0	0.0	—
Kharga	600.1	386.4	418.9	92	29	20	11	12	9.2	8.9	14.8	5,10	5.1	21	25.4	21.24	0.0	0.0	—

Table C 4.—EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS (cms) IN DIFFERENT FIELDS

JULY — 1969

STATION	Highest (H) Lowest (L)	Extreme soil temperature (°C) in dry field at different depths (cms.)								Extreme soil temperature (°C) in grass field at different depths (cms.)							
		2	5	10	20	50	100	200	300	2	5	10	20	50	100	200	300
El Kasr	H	42.3	38.3	33.4	29.7	28.2	26.5	24.3	—	—	—	—	—	—	—	—	—
	L	25.7	24.2	24.4	25.0	27.3	26.1	23.3	—	—	—	—	—	—	—	—	—
Tahrir	H	53.3	47.7	41.6	36.4	32.0	30.4	28.5	27.5	—	—	—	—	—	—	—	—
	L	28.0	26.4	26.2	29.1	30.4	29.8	27.7	26.5	—	—	—	—	—	—	—	—
Bahtim.	H	52.9	44.8	38.8	34.3	31.6	30.0	26.6	24.9	—	—	—	—	—	—	—	—
	L	28.7	27.9	28.6	31.0	30.3	28.8	25.4	24.1	—	—	—	—	—	—	—	—
Kharga.	H	56.8	49.3	43.7	37.6	35.0	32.8	30.5	29.0	—	—	—	—	—	—	—	—
	L	21.8	25.9	30.1	32.8	33.6	32.2	29.5	28.0	—	—	—	—	—	—	—	—

Table C 5. - SURFACE WIND

JULY — 1969

STATION	Wind Speed m/sec at 1½ metres			Days with surface wind speed at 10 metres							Max. Gust (knots) at 10 metres	
	Mean of the day	Night time mean	Day time mean	≥10 knots	≥15 konts	≥20 knots	≥25 knots	≥30 knots	≥35 knots	≥40 knots	value	Date
El Kasr . . .	3.9	3.1	4.8	—	—	—	—	—	—	—	—	—
Tahrir	2.7	1.8	3.6	31	19	1	—	—	—	—	25	7,15
Bahtim. . . .	—	—	—	24	7	—	—	—	—	—	23	5,13
Kharga . . .	4.6	3.6	5.6	31	27	19	7	2	—	—	36	14

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THE ARAB REPUBLIC OF EGYPT

MONTHLY WEATHER REPORT

VOLUME 12 NUMBER 8

AUGUST, 1969

U.D.C. 551. 506.1 (62)

THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

PUBLICATIONS OF THE METEOROLOGICAL AUTHORITY OF THE ARAB REPUBLIC OF EGYPT — CAIRO

In fulfilment of its duties, the Meteorological Authority of Egypt issues serveral reports and publications on weather, climate and agrometeoro logy. The principal publications are described on this page.

Orders for publications should be addressed to :

"Chairman of the Board of Directors, Meteor ological Authority, Kubri-el-Qubbeh — CAIRO".

THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Authority since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968, this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for Egypt.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of Egypt as well as monthly values of certain elements.

THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in march 19 68 which brings normals and mean values up till 1960.

METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff of "The Meteorological Institute for Research and Training" and the Operational Divisions of Meteorological Authority.

TECHNICAL NOTES

As from October 1970, the Meteorological Authority started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

The first Technical Note I was issued in October 1970 on : Sandstorms & Duststorms in Egypt.

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NOTICE

As from 25th November 1971 the name of the (Meteorological Department) has been changed to be the (Meteorological Authority).

CONTENTS

Note : For explanatory notes on the tables please refer to Volume 10, Number 1 (January 1967).

GENERAL SUMMARY OF WEATHER CONDITIONS

AUGUST 1969

Normal summer Weather. An excessive heat wave in the southern parts from the 26th till the 31st. Frequent early morning mist over Delta and Cairo areas.

GENERAL DESCRIPTION OF WEAHER

The prevailing weather during this month was generally of the mild summer type in the northern parts, normal summer weather in the central parts and excessively hot in the southern parts. Three variant heat waves were experienced round the 4th, (15th–20th) and (26th – 31st) respectively The first heat wave was pronounced in the central parts and the third heat wave was remarkably excessive in the southern parts, otherwise the waves were of weak intensity. The break down of these heat waves was followed by periods of mild summer weather particularly during the second week of the month.

The important weather phenomena experienced during this month were the frequent formation of scattered rising sand during several days over the Western Desert and Red Sea.

PRESSURE DISTRIBUTION

The most outstanding features of pressure distribution over the synoptic surface charts during this month were :

— The Atlantic anticyclone and its eastward extension.

— Local anticyclones moving through Europe.

— Deep depressions through North Europe, associated sometimes with secondaries through Central Europe.

— A ridge over Central Mediterranean and NE Africa.

— The complex monsoon low pressure system over the Arabian gulf, Arabia and North Sudan.

The monsoon trough over the Arabian gulf showed slight deepening and elongation through East Mediterranean area six times during this month. These elongations associated the transit of secondary lows or troughs through the Black Sea area and its vicinities. As a result of these elongations, the barometric pressure over Egypt experienced six corresponding falls round the periods (3rd – 4th), (5th – 6th), (8th – 10th), (13th – 15th), (21th – 23rd) and (25th – 27th) respectively.

During the rest periods of the month, high pressure built over Central Mediterranean and NE Africa and accordingly the barometric pressure over Egypt was above normal.

The most important features of pressure distribution over the synoptic upper air charts were :

— Deep upper low pressure systems over North Russia and North Atlantic.

— Secondary upper lows or troughs over the middle latitudes, traversing East Mediterranean on the 7th, 17th and 22nd.

— Upper high pressure belt over the subtropical latitudes.

SURFACE WIND

Light to moderate NE to NW winds prevailed most days of this month in general. Winds became fresh to strong during many days of the month over scattered places in the Western Desert and Red Sea districts.

TEMPERATURE

Maximum air temperature was above normal during the heat waves, and the deviations from normal were slight to moderate in general. As an exception, the deviation above normal was rather appreciable in the central parts during the first heat wave and in the southern parts during the third heat wave. During the mild periods, maximum air temperature showed slight to moderate deriations below normal in general.

Maximum air temperature values ranged generally between 28° & 32°C in the northern parts, between 32° & 37°C in the middle parts and between 39° & 45°C in the southern parts.

The absolute maximum air temperature was 46.6°C recorded at Luxor on the 27th.

Minimum air temperature oscillated round normal and the deviation was slight to moderate, except during the last heat wave when the deviation above normal was rather appreciable in the southern parts.

Minimum air temperature values ranged generally between 17° & 24°C in the northern and middle parts and between 22° & 27°C in the southern parts.

The absolute minimum air temperature was 15.7°C recorded at Shebin El Kom on the 17th.

PRECIPITATION

This month was rainless all over the Republic, apart from 0.5 mm over Luxor on the 30th which is a record for rainfall over Luxor during August.

chairman (M.F. TAHA.)

Board of Directors

Cairo, December 1971

Table A 1.– MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION AUGUST 1969

Station	Atmospheric Pressure (mbs) M.S.L.		Air Temperature °C								Relative Humidity %		Bright Sunshine Duration (Hours)			Piche Evaporation (mms.)
			Maximum		Minimum			Dry Bulb		Wet Bulb						
	Mean	D.F. Normal or Average	(A) Mean	D.F.Normal or Average	(B) Mean	D.F.Normal or Average	$\frac{A+B}{2}$	Mean	D.F.Normal or Average	Mean	D.F.Normal or Average	Mean	D.F.Normal or Average	Total Actual	Total Possible	%	Mean
Sallum	1009.8	—0.5	29.9	—1.1	21.5	—0.1	25.7	25.5	—0.8	21.1	+0.8	66	0.0	—	—	—	8.3
Mersa Matruh(A)	1011.1	+1.0	29.1	—0.8	20.0	—1.0	24.6	24.5	—1.0	21.2	—0 6	73	+1	—	—	—	6.2
Alexandria. (A)	1010.3	+1.5	29.4	—1.2	22.2	—0.6	25.8	25.5	—1.2	21.5	—1.5	69	—3	365.2	411.1	88.8	6.4
Port Said. (A)	1008.9	+0.9	29.6	—1.2	23.6	—1.3	26.6	26.2	—1.1	22.7	—1.0	73	+1	—	-	—	7.2
El Arish.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1009.9	+2.1	33.0	—1.6	19.8	+0.3	26.4	25.6	—1.3	21.4	—0.6	67	—3	356.8	410.6	86.9	4.6
Cairo. (A)	1009.3	+0.8	33.8	—0.9	21.0	—0.8	27.4	26.6	—1.1	21.3	—0.8	61	+5	—	—	—	13.2
Fayoum.	—	—	36.9	+0.4	20.6	—1.0	28.8	28.2	—0.8	21.3	0.0	52	+4	—	—	—	8.2
Minya. (A)	1008.0	+0.6	36.1	—0.3	20.1	—0.4	29.1	27.7	—0.6	20.7	—0.1	51	+1	366.4	406.6	90.1	12.5
Assyout. (A)	1007.5	+0.5	35.8	—1.1	21.2	—1.2	28.5	28.4	—2.0	20.0	+0 2	43	+8	—	—	—	16.9
Luxor. (A)	1005.8	+0.7	41.2	+0.2	23.6	0.0	32.4	32.5	—0.4	20.5	+0.5	29	+3	—	—	—	13.2
Aswan. (A)	1005.5	+0.4	42.0	+0.7	24.8	—0.4	33.4	33.6	—0.2	18.7	+0.3	18	+2	—	—	—	30.0
Siwa.	1010.4	+0.6	36.8	—0.9	20.7	0.0	28.8	29.0	—0.8	19.1	—0.6	35	—1	377.3	408.1	90.2	14.9
Bahariya	1009.2	+1.0	36.9	+0.1	21.3	+0.5	29.1	29.3	—0.3	19.7	—0.1	36	0.0	—	—	—	11.2
Farafra.	1010.0	+0.6	37.0	—0.5	20.5	—0.6	28.8	29.0	—0.9	17.7	—0.2	27	—2	—	—	—	16.2
Dakhla.	1008.8	+1.1	38.0	—0.8	21.2	—1.6	29.6	29.9	—0.9	18.1	—0.2	26	+3	—	—	—	23.0
Kharga	1007.3	+0.7	39.3	0.0	22.7	—0.2	31.0	31.7	—0.2	18.2	—0.9	25	—1	(338.1)	(364.9)	(93)	24.7
Tor.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada.	1005.2	+0.7	33.8	+0.6	25.4	+0.2	29.6	29.8	+0.3	22.4	+0.3	50	+2	—	—	—	17.6
Quseir.	1005.2	+0.2	32.4	—1.3	26.4	—0.5	29.4	29.7	—0.6	22.4	0.0	51	+4	—	—	—	18.7

Note.—The number of records for the sunshine at Kharga was 28 days only.

Table A 2. –MAXIMUM AND MINIMUM AIR TEMPERATURE

AUGUST 1969

Station	Maximum Temperature °C									Grass Min. Temp.		Minimum Temperature °C							
	Highest	Date	Lowest	Date	No. of Days with Max-Temp.					Mean	Dev. From Normal	Highest	Date	Lowest	Date	No. of Days with Min. Temp.			
					>25	>30	>35	>40	>45							<10	<5	<0	<-5
Sallum	33.6	18	27.5	31	31	13	0	0	0	21.1	—	23.3	19	19.1	9	0	0	0	0
Mersa Matruh (A)	32.8	3	28.0	1	31	4	0	0	0	—	—	23.6	21	16.0	27	0	0	0	0
Alexandria (A)	31.5	18	27.8	9	31	7	0	0	0	21.2	—	24.7	20	18.7	18	0	0	0	0
Port Said (A)	31.0	14	28.5	23	31	7	0	0	0	23.2	—	25.0	29	21.5	10	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	35.7	28	30.4	1	31	31	2	0	0	—	—	21.8	15	17.5	10	0	0	0	0
Cairo (A)	40.0	4	31.2	10	31	31	6	0	0	—	—	23.2	4	19.2	17	0	0	0	0
Fayoum	40.7	4	34.2	10,11	31	31	28	1	0	19.4	—	22.6	29	18.7	11	0	0	0	0
Minya (A)	41.3	4	32.8	10	31	31	24	1	0	18.2	—	22.2	52,9	17.9	11	0	0	0	0
Assyout (A)	41.0	29	32.0	11	31	31	19	2	0	19.6	—	23.7	4	19.2	11	0	0	0	0
Luxor (A)	46.6	27	37.5	10	31	31	31	16	4	21.0	—	26.4	27	21.2	11	0	0	0	0
Aswan (A)	46.0	31	38.4	11	31	31	31	26	6	—	—	29.8	29	21.7	12	0	0	0	0
Siwa	40.8	19	33.8	9	31	31	27	3	0	17.1	—	23.9	3	17.5	26	0	0	0	0
Bahariya	40.9	3	34.4	10	31	31	27	1	0	19.7	—	25.0	4	19.1	14	0	0	0	0
Farafra	42.0	3	34.1	11	31	31	25	2	0	20.0	—	24.5	4	18.6	18	0	0	0	0
Dakhla	42.2	4	34.4	10	31	31	29	5	0	—	—	27.7	30	16.4	18	0	0	0	0
Kharga	43.7	4	36.0	10,11,12	31	31	31	11	0	20.8	—	27.6	5	18.4	11	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	37.3	26	31.4	1,12	31	31	8	0	0	—	—	28.7	28	22.5	12	0	0	0	0
Quseir	35.4	4	30.6	11	31	31	1	0	0	23.7	—	28.6	5	24.7	1	0	0	0	0

Table A 3.—SKY COVER AND RAINFALL

AUGUST 1969

Station	Mean Sky Cover Oct.					Rainfall mms.										
	00 U.T.	06 U.T.	12 U.T.	18 U.T.	Daily Mean	Total Amount	D. From Normal	Max. Fall in one day		Number of Days with Amount of Rain						
								Amount	Date	<0 1	≥0 1	≥1 0	≥5 0	≥10	≥25	≥50
Sallum	0.9	0.8	0.1	0.2	0.5	0	0.0	0	—	0	0	0	0	0	0	0
Mersa Matruh (A)	0.9	2.0	1.1	1.2	1.3	0	0.0	0	—	0	0	0	0	0	0	0
Alexandria (A)	2.7	2.6	2.2	2.2	2.3	0	−0.5	0	—	0	0	0	0	0	0	0
Port Said (A)	—	2.3	0.7	—	—	0	0.0	0	—	0	0	0	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	0.5	1.7	0.5	0.0	0.7	0	0.0	0	—	0	0	0	0	0	0	0
Cairo (A)	2.5	3.7	0.3	0.2	1.5	0	0.0	0	—	0	0	0	0	0	0	0
Fayoum	—	1.6	0.3	0.3	—	0	0.0	0	—	0	0	0	0	0	0	0
Minya (A)	0.0	1.2	0.2	0.1	0.3	0	0.0	0	—	0	0	0	0	0	0	0
Assyout (A)	0.0	0.3	0.2	0.3	0.2	tr	+tr.	tr.	30	1	0	0	0	0	0	0
Luxor (A)	0.5	0.6	0.7	0.7	0.6	0.5	+0.5	0.5	30	0	1	0	0	0	0	0
Aswan (A)	0.7	1.0	0.9	0.9	0.9	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Siwa	0.0	0.2	0.0	0.0	0.3	0	0.0	0	—	0	0	0	0	0	0	0
Bahariya	0.0	0.5	0.2	0.1	0.2	0	0.0	0	—	0	0	0	0	0	0	0
Farafra	—	0.0	0.0	0.0	—	0	0.0	0	—	0	0	0	0	0	0	0
Dakhla	0.3	0.3	0.3	0.2	0.2	0	0.0	0	—	0	0	0	0	0	0	0
Kharga	0.1	0.3	0.5	0.3	0.3	0	0.0	0	—	0	0	0	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0.0	0.3	0.3	0.1	0.2	0	0.0	0	—	0	0	0	0	0	0	0
Quseir	0.2	0.5	0.4	0.2	0.3	0	0.0	0	—	0	0	0	0	0	0	0

Table A 4. - DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA

AUGUST 1969

Station	Precipitation				Frost	Thunderstorm	Mist Vis ≥ 1000 metres	Fog Vis < 1000 Metres	Haze Vis ≥1000 Metres	Thick Haze Vis <1000 Metres	Dust or Sandrising Vis ≥ 1000 Metres	Dust or Sandstorm Vis < 1000 Metres	Gale	Clear Sky	Cloudy Sky
	Rain	Snow	Ice Pellets	Hail											
Sallum	0	0	0	0	0	0	0	0	0	0	0	0	0	30	0
Mersa Matruh (A)	0	0	0	0	0	0	1	1	0	0	0	0	0	23	0
Alexandria (A)	0	0	0	0	0	0	1	1	0	0	0	0	0	14	0
Port Said (A)	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	0	0	0	0	0	0	4	3	0	0	1	0	0	28	0
Cairo (A)	0	0	0	0	0	0	14	5	3	0	0	0	0	22	0
Fayoum	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
Minya (A)	0	0	0	0	0	0	1	0	1	0	2	0	0	30	0
Assyout (A)	0	0	0	0	0	0	0	0	0	0	2	0	0	31	0
Luxor (A)	1	0	0	0	0	1	3	0	0	1	1	1	0	26	0
Aswan (A)	0	0	0	0	0	0	0	0	0	0	5	2	0	25	0
Siwa	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0
Bahariya	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0
Farafra	0	0	0	0	0	0	0	0	0	0	1	0	0	31	0
Dakhla	0	0	0	0	0	0	0	0	0	0	3	0	0	30	0
Kharga	0	0	0	0	0	0	0	0	0	0	7	0	0	30	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0	0	0	0	0	0	0	0	1	0	5	0	0	30	0
Quseir	0	0	0	0	0	0	0	0	0	0	0	0	0	29	0

Table A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

AUGUST 1969

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												All directions
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	531 / 314	
Sallum	6	1	0	1—10	66	125	56	18	18	2	1	6	11	23	39	117	482
				11—27	25	78	10	0	0	0	0	0	0	1	25	116	255
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**91**	**203**	**66**	**18**	**18**	**2**	**1**	**6**	**11**	**24**	**64**	**233**	**737**
Mersa Matruh	33	0	0	1—10	141	30	4	6	2	3	4	4	37	115	63	156	565
				11—27	16	1	3	2	1	0	0	0	0	0	6	117	146
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**157**	**31**	**7**	**8**	**3**	**3**	**4**	**4**	**37**	**115**	**69**	**273**	**711**
Alexandria	0	0	0	1—10	21	12	1	1	0	7	16	5	5	60	275	125	528
				11—27	8	1	0	0	0	0	0	0	0	11	153	42	215
				28—47	0	0	0	0	0	0	0	0	0	0	1	0	1
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**29**	**13**	**1**	**1**	**0**	**7**	**16**	**5**	**5**	**71**	**429**	**167**	**744**
Port Said	11	0	0	1—10	98	17	2	3	2	1	1	12	46	111	103	192	588
				11—27	7	3	0	0	0	0	0	0	0	4	77	54	145
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**105**	**20**	**2**	**3**	**2**	**1**	**1**	**12**	**46**	**115**	**180**	**246**	**733**
Tanta	102	0	5	1—10	21	9	7	0	0	3	39	58	71	123	231	75	637
				11—27	0	0	0	0	0	0	0	0	0	0	0	0	0
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**21**	**9**	**7**	**0**	**0**	**3**	**39**	**58**	**71**	**123**	**231**	**75**	**637**
Cairo	46	2	0	1—10	123	99	26	12	1	1	0	2	2	5	84	160	515
				11—27	60	60	4	1	3	1	0	2	0	0	1	49	181
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**183**	**159**	**30**	**13**	**4**	**2**	**0**	**4**	**2**	**5**	**85**	**209**	**696**
Fayoum	5	0	0	1—10	418	231	11	0	0	1	1	5	2	3	8	52	732
				11—27	0	6	0	0	0	0	0	0	0	1	0	0	7
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**418**	**237**	**11**	**0**	**0**	**1**	**1**	**5**	**2**	**4**	**8**	**52**	**739**
Minya	16	1	6	1—10	442	63	0	0	0	1	5	0	1	4	9	37	562
				11—27	156	3	0	0	0	0	0	0	0	0	0	0	159
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**598**	**66**	**0**	**0**	**0**	**1**	**5**	**0**	**1**	**4**	**9**	**37**	**721**

Table A 5 (*contd.*)—**NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES**

AUGUST — 1969

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												All directions
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	
Asyout . . . . . (A)	0	9	0	1—10	14	2	0	1	5	0	0	0	27	270	250	81	646
				11—27	5	0	0	0	0	0	0	0	0	20	59	19	98
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				>48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**19**	**2**	**0**	**1**	**5**	**0**	**0**	**0**	**27**	**290**	**309**	**100**	**744**
Luxor . . . . . (A)	2	3	0	1—10	22	2	2	7	10	57	150	79	109	136	122	33	729
				11—27	0	0	1	0	0	0	0	0	0	2	7	0	10
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				>48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**22**	**2**	**3**	**7**	**10**	**57**	**150**	**79**	**109**	**138**	**129**	**33**	**739**
Aswan . . . . . (A)	1	5	0	1—10	190	53	13	1	2	5	6	2	7	39	70	187	575
				11—27	51	12	4	1	1	0	0	0	0	1	30	63	163
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				>48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**241**	**65**	**17**	**2**	**3**	**5**	**6**	**2**	**7**	**40**	**100**	**250**	**738**
Siwa	18	4	0	1—10	62	136	87	40	12	13	6	5	11	49	87	166	674
				11—27	4	14	3	0	0	0	0	0	1	8	4	14	48
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				>48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**66**	**150**	**90**	**40**	**12**	**13**	**6**	**5**	**12**	**57**	**91**	**180**	**722**
Dakhla	1	2	0	1—10	41	15	4	4	4	4	11	15	63	130	137	210	641
				11—27	34	20	0	0	0	0	0	0	0	1	1	44	100
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				>48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**78**	**35**	**4**	**4**	**4**	**4**	**11**	**15**	**63**	**131**	**138**	**254**	**741**
Kharga	6	3	5	1—10	107	20	7	6	4	1	0	1	9	15	63	205	438
				11—27	184	4	0	0	0	0	0	0	0	0	5	98	291
				28—47	1	0	0	0	0	0	0	0	0	0	0	0	1
				>48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**292**	**24**	**7**	**6**	**4**	**1**	**0**	**1**	**9**	**15**	**68**	**303**	**730**
Hurghada	8	0	0	1—10	23	5	4	2	4	3	0	0	1	4	35	41	122
				11—27	191	21	0	0	0	0	0	0	0	4	53	332	601
				28—47	1	0	0	0	0	0	0	0	0	0	0	12	13
				>48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**215**	**26**	**4**	**2**	**4**	**3**	**0**	**0**	**1**	**8**	**88**	**385**	**736**
Quseir	15	0	7	1—10	151	58	3	2	0	2	9	7	5	22	43	169	471
				11—27	201	26	0	0	0	0	0	0	0	0	0	24	251
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				>48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**352**	**84**	**3**	**2**	**0**	**2**	**9**	**7**	**5**	**22**	**43**	**193**	**722**

Table B 1.—UPPER AIR CLIMATOLOGICAL DATA
AUGUST — 1969

Station	Pressure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh 0000 U.T.	Surface	27	*1008mb.	*1012mb.	*1005mb.	27	22.6	25.0	19.4	27	20.0
	1000	27	95	132	71	27	22.4	24.5	20.5	27	19.8
	850	27	1504	1529	1474	27	19.5	22.2	15.5	27	8.1
	700	27	3154	3190	3113	27	11.8	15.8	6.8	27	—0.5
	600	27	4429	4488	4372	27	4.8	9.9	—0.3	27	—8.1
	500	27	5891	5978	5826	27	—4.7	—0.2	—9.5	27	—15.5
	400	27	7609	7716	7532	27	—17.3	—13.1	—21.9	27	—28.2
	300	26	9708	9834	9606	26	—31.4	—27.5	—35.2	26	—41.1
	250	26	10977	11120	10856	26	—40.3	—37.0	—43.7	26	—49.1
	200	26	12464	12620	12326	26	—51.2	—48.0	—53.5	26	—59.2
	150	26	14280	14451	14136	26	—63.8	—61.9	—66.6	—	—
	100	23	16696	16868	16562	23	—74.8	—71.7	—79.9	—	—
	70	13	18788	18950	18650	13	—67.5	—65.8	—69.7	—	—
	60	13	19725	19893	19616	13	—63.9	—62.0	—66.8	—	—
	50	9	20855	21027	20733	9	—59.5	—51.8	—62.8	—	—
	40	5	22316	22434	22141	5	—57.6	—56.5	—59.1	—	—
	30	3	24151	24280	24027	3	—50.6	—43.0	—56.7	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 0000 U.T.	Surface	30	*993mb.	*997mb.	*991mb.	30	22.7	28.3	20.5	30	18.4
	1000	30	81	110	59	—	—	—	—	—	—
	850	30	1494	1531	1466	30	21.4	26.2	15.8	28	3.5
	700	30	3151	3198	3100	30	13.1	15.8	9.0	28	—8.5
	600	30	4429	4466	4368	30	5.7	9.2	1.3	28	—15.1
	500	30	5893	5944	5834	30	—3.9	0.5	—10.5	28	—23.6
	400	29	7616	7678	7576	29	—15.4	—10.9	—22.4	26	—32.9
	300	28	9725	9826	9657	28	—29.9	—22.9	—33.7	25	—44.7
	250	26	11003	11141	10920	26	—38.9	—31.3	—41.7	24	—52.7
	200	26	12497	12686	12400	26	—49.7	—41.2	—51.8	23	—59.2
	150	24	14319	14592	14210	24	—62.7	—52.3	—65.0	1	—63.2
	100	21	16739	17129	16628	21	—74.7	—67.4	—79.2	—	—
	70	14	18851	19150	18750	14	—68.0	—60.2	—75.0	—	—
	60	12	19791	20159	19687	12	—65.7	—62.1	—75.3	—	—
	50	10	20928	21221	20818	10	—61.2	—49.8	—75.5	—	—
	40	8	22297	22394	22233	8	—55.8	—53.8	—57.4	—	—
	30	6	24145	24244	24093	6	—53.1	—51.4	—55.0	—	—
	20	2	26768	26788	26747	2	—49.6	—49.0	—50.2	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan 0000 U.T.	Surface	28	*983mb.	*984mb.	*981mb.	28	28.7	34.2	25.2	28	7.4
	1000	28	44	69	24	—	—	—	—	—	—
	850	28	1483	1503	1458	28	25.4	31.9	20.9	28	2.1
	700	28	3156	3195	3120	28	14.6	17.3	10.0	28	—8.5
	600	28	4438	4480	4398	28	5.2	8.3	—7.6	28	—13.3
	500	28	5899	5936	5874	28	—4.7	0.1	—10.2	28	—21.6
	400	27	7625	7672	7581	27	—15.1	—11.5	—21.4	27	—32.7
	300	27	9739	9781	9661	27	—29.7	—26.9	—32.1	27	—44.9
	250	27	11016	11062	10923	27	—38.9	—36.6	—41.7	27	—53.0
	200	27	12511	12572	12403	27	—50.0	—48.3	—59.2	27	—62.0
	150	26	14335	14410	14207	26	—63.7	—61.5	—66.5	—	—
	100	26	16735	16839	16599	26	—76.0	—72.2	—80.3	—	—
	70	19	18828	18900	18690	19	—66.7	—59.2	—70.5	—	—
	60	16	19754	19815	19639	16	—64.1	—61.4	—67.8	—	—
	50	15	20887	20986	20761	15	—61.5	—59.0	—68.6	—	—
	40	10	22283	22344	22215	10	—57.3	—53.5	—60.0	—	—
	30	8	24104	24180	24035	8	—54.9	—51.5	—60.0	—	—
	20	2	26805	26812	26798	2	—48.6	—47.8	—49.3	—	—
	10	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

Table B 1 (*contd.*) UPPER AIR CLIMATOLOGICAL DATA
AUGUST — 1969

Station	Pressure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh 1200 U.T.	Surface	29	*1008mb.	*1012mb.	*1005mb.	29	27.9	32.0	26.0	29	19.6
	1000	29	99	134	72	28	27.0	31.8	25.0	28	18.8
	850	29	1516	1559	1489	29	20.5	27.0	16.2	29	0.5
	700	27	3168	3229	3123	27	12.2	15.4	6.1	27	—9.9
	600	25	4442	4508	4377	25	5.2	8.2	2.0	25	—17.5
	500	18	5908	5962	5830	18	—3.9	—1.6	—6.8	18	—24.2
	400	16	7629	7648	7541	16	—15.5	—10.7	—19.8	14	—34.4
	300	11	9743	9803	9676	11	—29.4	—26.2	—31.3	11	—45.7
	250	10	11018	11084	10956	10	—38.6	—36.2	—41.4	10	—54.1
	200	8	12516	12585	12458	8	—49.9	—48.4	—53.0	7	—62.7
	150	8	14342	14406	14266	8	—62.9	—60.3	—65.0	—	—
	100	4	16782	16824	16744	4	—73.6	—72.0	—75.5	—	—
	70	4	18905	18940	18860	4	—67.1	—66.0	—68.2	—	—
	60	3	19844	19860	19814	3	—61.5	—60.7	—62.2	—	—
	50	3	20985	21012	20960	3	—57.1	—55.7	—59.2	—	—
	40	3	22409	22438	22386	3	—53.3	—52.1	—54.0	—	—
	30	2	24268	24292	24244	2	—56.6	—51.7	—61.6	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 1200 U.T.	Surface	31	*992mb.	*996mb.	*990mb.	31	33.2	37.2	30.2	31	13.0
	1000	31	73	104	50	—	—	—	—	—	—
	850	31	1505	1538	1476	31	21.8	28.4	16.1	30	—1.1
	700	30	3165	3218	3109	30	13.6	16.5	8.2	28	—10.9
	600	29	4444	4493	4377	29	6.1	10.0	2.0	28	—18.2
	500	28	5912	5973	5837	28	—3.3	0.4	—10.1	27	—26.1
	400	24	7637	7708	7560	24	—15.4	—11.4	—21.0	23	—35.6
	300	24	9750	9828	9649	24	—29.4	—26.5	—33.1	23	—47.4
	250	23	11024	11102	10918	23	—38.5	—36.0	—41.6	22	—55.3
	200	20	12518	12612	12399	20	—49.6	—47.4	—54.3	16	—63.6
	150	15	14361	14441	14268	15	—61.7	—59.9	—63.8	1	—74.0
	100	11	16788	16857	16698	11	—75.1	—70.7	—81.8	—	—
	70	9	18889	18950	18760	9	—66.2	—63.7	—68.9	—	—
	60	8	19843	19923	19777	8	—59.6	—55.6	—61.4	—	—
	50	6	20991	21035	20938	6	—56.9	—55.5	—59.0	—	—
	40	5	22411	22458	22366	5	—54.3	—53.6	—54.8	—	—
	30	5	24274	24325	24226	5	—50.2	—48.7	—51.5	—	—
	20	3	26908	26923	26882	3	—47.1	—44.3	—49.1	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan 1200 U.T.	Surface	29	*983mb.	*984mb.	*980mb.	29	39.8	44.7	35.5	29	7.7
	1000	29	35	51	12	—	—	—	—	—	—
	850	29	1499	1523	1472	29	26.7	32.4	22.0	29	—1.6
	700	27	3172	3218	3132	27	15.3	19.0	11.7	27	—11.2
	600	27	4455	4500	4414	27	7.9	9.4	2.4	27	—17.8
	500	26	5920	5957	5881	26	—4.9	1.6	—10.2	26	—24.4
	400	26	7646	7709	7593	25	—14.5	—10.3	—21.1	24	—35.2
	300	24	9768	9868	9701	24	—28.5	—22.0	—31.4	23	—47.1
	250	22	11050	11168	10971	22	—37.8	—34.7	—40.8	22	—54.5
	200	22	12553	12696	12459	22	—48.9	—45.3	—51.4	22	—63.3
	150	19	14384	14554	14284	19	—62.5	—59.6	—64.9	2	—72.1
	100	19	16798	16984	16692	19	—74.5	—68.5	—78.5	—	—
	70	15	18910	19087	18780	15	—67.7	—64.6	—73.1	—	—
	60	7	19886	20027	19781	7	—62.7	—61.9	—65.3	—	—
	50	7	21018	21160	20925	7	—59.2	—52.2	—61.6	—	—
	40	5	22402	22466	22341	5	—55.6	—54.0	—57.0	—	—
	30	5	24262	24311	24199	5	—49.5	—44.8	—51.9	—	—
	20	4	26944	26991	26875	4	—45.8	—43.4	—47.3	—	—
	10	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

Table B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE, THE HIGHEST WIND SPEED IN THE UPPER AIR

AUGUST — 1969

	Station	Freezing Level									First Tropopause									Highest wind speed			
		Mean			Highest			Lowest			Mean			Highest			Lowest						
		Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Direction (600—360)	Speed in Knots
0000 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	M. Matruh (A)	5192 (27)	544 (27)	—12.1 (27)	5940	502	— 9.3	4370	604	— 8.1	15987 (17)	112 (17)	—73.1 (16)	17230	91	—	14890	133	—68.9	13100	179	200	102
	Helwan . . .	5349 (30)	536 (30)	—19.8 (28)	6000	495	—19.1	4600	590	—10.3	16231 (13)	110 (13)	—73.3 (13)	18380	81	— 70.6	15260	128	—72.4	15360	128	160	76
	Aswan . . (A)	5223 (27)	545 (27)	—17.1 (27)	5990	495	—25.1	4700	580	— 9.8	16477 (20)	105 (20)	—75.9 (20)	17790	84	—78.4	15300	117	—73.5	21900	627	090	75
1200 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	M. Matruh (A)	5287 (19)	541 (19)	—19.3 (19)	5810	515	—22.6	4840	572	—14.2	16234 (4)	110 (4)	—72.4 (4)	16824	100	—74.2	15670	121	—70.4	8130	370	240	66
	Helwan . . .	5457 (28)	531 (28)	—22.7 (27)	6330	476	—20.8	4660	685	—12.2	16521 (10)	105 (10)	—73.5 (10)	16825	100	—76.8	15500	126	—70.4	10460	268	240	66
	Aswan . . (A)	5320 (25)	542 (25)	—21.7 (24)	6190	486	—25.9	4770	574	—	16582 (16)	104 (16)	—75.5 (16)	16790	88	—77.0	15430	123	—75.3	14420	147	135	76

N — The Number of cases the element has been observed during the month.

Table B 3. - NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

MERSA MATRUH (A) - AUGUST 1969

Station	Prussure Surfaee (Millibar)	Wind between specified ranges of direction (000–360°)																								Number of calm winds	Total number of observations (TN)	Mean scalar wind speed (knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	2	8	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	8	9	6	2	8	7	10	3	27	7
	1000	5	7	0	—	0	—	0	—	0	—	1	5	0	—	0	—	1	11	5	8	7	11	8	13	0	27	10
	850	13	16	2	8	2	6	1	6	0	—	0	—	0	—	0	—	0	—	1	15	3	20	5	14	0	27	14
	700	4	9	4	14	0	—	2	4	0	—	0	—	0	—	0	—	2	6	2	26	6	14	7	13	0	27	12
	600	5	9	1	10	0	—	0	—	1	3	0	—	0	—	2	7	1	17	5	23	8	14	4	12	0	27	14
	500	1	21	2	5	0	—	2	7	0	—	0	—	0	—	3	18	5	24	7	18	7	19	0	—	0	27	18
	400	1	34	1	15	0	—	0	—	0	—	0	—	1	15	4	16	7	29	9	23	2	20	1	20	0	26	23
	300	0	—	0	—	0	—	0	—	0	—	0	—	1	29	7	24	10	32	6	27	1	28	1	34	0	26	28
	250	0	—	0	—	0	—	0	—	0	—	0	—	3	27	8	26	8	30	5	38	1	30	1	31	0	26	30
	200	0	—	0	—	0	—	0	—	0	—	1	30	4	30	10	34	6	32	4	35	1	45	0	—	0	26	33
	150	0	—	0	—	0	—	0	—	0	—	0	—	5	36	12	34	5	33	4	41	0	—	0	—	0	26	35
	100	0	—	1	12	0	—	0	—	0	—	2	14	10	23	3	34	2	40	0	—	0	—	0	—	0	18	25
	70	0	—	0	—	0	—	6	16	0	—	2	13	0	—	0	—	0	—	0	—	0	—	0	—	1	9	13
	60	0	—	0	—	1	16	2	21	2	17	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	5	18
	50	0	—	0	—	1	12	2	21	1	11	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	4	16
	40	0	—	0	—	0	—	1	3	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	3
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	5	12	2	10	0	—	1	16	0	—	0	—	0	—	0	—	0	—	0	—	2	14	19	14	0	29	14
	1006	4	13	0	—	0	—	1	16	0	—	0	—	0	—	0	—	0	—	0	—	0	—	24	16	0	29	15
	850	6	13	2	18	2	11	1	3	0	—	0	—	0	—	0	—	1	18	3	13	4	17	9	16	0	28	13
	700	7	12	2	8	0	—	0	—	0	—	0	—	0	—	3	9	1	30	3	10	5	16	6	10	0	27	12
	600	2	12	0	—	0	—	0	—	0	—	0	—	3	5	0	—	6	11	3	15	5	16	4	10	0	23	12
	500	1	14	1	8	0	—	0	—	0	—	0	—	0	—	3	13	6	18	4	22	3	15	0	—	0	18	17
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	13	6	31	4	34	2	15	1	19	0	14	27
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	28	3	32	4	32	0	—	1	38	0	10	32
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	30	1	20	3	42	1	38	0	—	0	8	34
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	33	2	30	2	43	1	51	1	26	0	7	37
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	30	2	18	2	38	1	30	0	—	0	7	29
	100	0	—	0	—	0	—	0	—	1	22	0	—	1	22	1	22	1	18	0	—	0	—	0	—	0	4	21
	70	0	—	0	—	0	—	0	—	2	24	2	23	0	—	0	—	0	—	0	—	0	—	0	—	0	4	24
	60	0	—	0	—	0	—	0	—	2	17	1	30	0	—	0	—	0	—	0	—	0	—	0	—	0	3	21
	50	0	—	0	—	0	—	1	22	2	23	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	3	23
	40	0	—	0	—	0	—	1	37	1	23	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	30
	30	0	—	0	—	0	—	0	—	1	42	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	42
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

Table B 3 *(contd.)*—**NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAEN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRUSSURE SURFACES.**

HELWAN (A) — AUGUST 1969

Station	Prussure Surface (Millibar)	Wind between specified ranges of direction (000–360°)																								Number of calm winds	Total number of observations (TN)	Mean scalar wind speed (knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 135		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	16	6	3	7	3	6	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	5	2	30	5
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	6	18	3	14	0	—	1	12	0	—	0	—	1	11	1	8	5	8	3	12	5	16	5	17	0	30	14
	700	0	—	0	—	1	12	1	2	1	3	2	15	1	13	5	17	2	10	6	15	6	10	5	10	0	30	12
	600	0	—	1	5	0	—	0	—	2	8	0	—	0	—	8	17	9	19	3	21	5	9	2	18	0	30	16
	500	0	—	0	—	1	15	1	5	1	20	0	—	6	18	5	22	7	14	5	14	4	13	0	—	0	30	16
	400	0	—	0	—	0	—	1	21	2	10	1	17	1	25	8	25	10	22	4	22	1	12	0	—	0	28	21
	300	0	—	0	—	1	3	0	—	1	22	1	29	8	26	1	20	8	24	6	24	0	—	0	—	0	26	24
	250	0	—	0	—	0	—	1	17	3	18	4	19	6	31	3	34	7	29	2	22	0	–	0	–	0	26	26
	200	0	—	0	—	0	—	1	33	2	12	4	32	7	38	2	24	5	33	2	50	0	—	0	—	0	23	33
	150	0	—	0	—	0	—	0	—	3	22	6	32	5	43	2	35	3	34	0	—	0	—	0	—	0	19	34
	100	0	—	0	—	0	—	0	—	0	—	3	21	3	48	1	29	0	—	0	—	0	—	0	—	0	7	34
	70	0	—	0	—	0	—	0	—	1	75	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	75
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	8	8	3	12	0	—	0	—	0	—	0	—	0	—	0	—	1	8	1	4	10	8	8	6	0	31	8
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	4	17	5	10	1	2	0	—	1	6	3	12	2	2	1	15	1	15	3	11	2	7	8	14	0	31	12
	700	0	—	0	—	0	—	0	—	1	9	1	17	3	14	8	18	10	13	1	18	2	17	3	14	0	29	15
	600	0	—	1	10	0	—	0	—	0	—	3	13	3	20	9	24	3	22	7	14	2	9	0	—	0	28	18
	500	0	—	0	—	0	—	0	—	2	20	0	—	3	15	7	19	11	18	2	16	0	—	1	10	0	26	18
	400	0	—	1	12	0	—	1	39	2	13	1	13	0	—	6	20	8	18	3	13	2	18	0	—	0	24	18
	300	0	—	0	—	0	—	1	24	2	22	5	21	3	33	4	26	3	31	3	28	1	62	0	—	0	22	28
	250	0	—	0	—	0	—	1	13	1	37	4	18	5	30	2	12	2	39	3	33	1	17	0	—	0	19	26
	200	0	—	0	—	0	—	0	—	1	23	4	18	4	20	2	16	2	39	0	—	0	—	0	—	0	13	22
	150	0	—	0	—	0	—	0	—	2	24	1	23	0	—	1	12	1	50	2	36	0	—	0	—	0	7	29
	100	0	—	0	—	0	—	1	22	1	23	1	30	1	19	0	—	0	—	0	—	0	—	0	—	0	4	24
	70	0	—	0	—	0	—	0	—	2	28	1	15	0	—	0	—	0	—	0	—	0	—	0	—	0	3	23
	60	0	—	0	—	0	—	1	15	2	34	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	3	28
	50	0	—	0	—	0	—	3	33	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	3	33
	40	0	—	0	—	1	36	1	49	1	38	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	3	41
	30	0	—	0	—	—	—	2	24	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	24
	20	0	—	0	—	0	—	1	40	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	40
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the wind has been observed for the range of direction during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

Table B 3 (*contd.*)– **NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.**

ASWAN (A) – AUGUST 1969

Station	Prussure Surface (Millibar)	Wind between specified ranges of direction (000—360)°																						Number of calm winds	Total number of observations (TN)	Mean speed wind speed (onots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 135		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	7	9	1	12	2	6	1	12	0	—	0	—	0	—	0	—	0	—	0	—	5	10	11	10	1	28	9
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	0	—	6	11	3	13	1	16	1	1	0	—	1	13	1	12	2	8	4	11	3	9	6	16	0	28	12
	700	3	7	2	10	2	10	3	7	1	8	1	5	0	—	3	11	4	17	8	11	1	19	0	—	0	28	11
	600	0	—	0	—	2	16	2	7	2	9	2	5	6	—	4	5	10	16	4	8	1	7	0	—	0	27	11
	500	2	6	1	4	2	11	7	11	7	7	1	9	1	5	2	4	0	—	4	6	0	—	0	—	0	27	8
	400	1	7	1	8	1	11	8	9	7	13	4	9	3	9	1	9	0	—	0	—	0	—	1	7	0	27	10
	300	1	6	0	—	1	13	6	18	11	15	1	8	2	11	1	4	1	9	1	6	1	3	1	10	0	27	13
	250	0	—	0	—	1	3	8	14	11	19	2	16	2	8	1	3	1	9	1	20	0	—	0	—	0	27	15
	200	0	—	0	—	0	—	8	15	12	23	3	23	2	8	2	18	0	—	0	—	0	—	0	—	0	27	19
	150	0	—	0	—	0	—	5	28	17	28	2	9	1	6	0	—	0	—	0	—	0	—	0	—	0	25	25
	100	0	—	0	—	0	—	4	26	14	33	2	44	0	—	0	—	0	—	0	—	0	—	0	—	0	20	33
	70	0	—	0	—	0	—	11	20	5	31	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	16	30
	60	0	—	0	—	4	28	9	26	1	26	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	14	26
	50	0	—	0	—	1	36	12	34	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	13	34
	40	0	—	0	—	1	27	8	31	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	9	31
	30	0	—	0	—	2	48	2	40	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	4	44
	20	0	—	0	—	0	—	1	54	1	49	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	52
	10	—	—	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	8	10	2	10	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	9	3	9	8	7	1	29	8
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	3	10	0	—	2	13	1	9	1	4	0	—	0	—	0	—	1	5	5	11	9	10	7	12	0	29	10
	700	0	—	1	12	2	8	2	6	1	14	0	—	0	—	5	15	7	15	6	14	1	3	2	8	0	27	13
	600	1	9	1	13	1	3	1	2	2	6	1	4	2	12	7	14	5	14	4	13	0	—	2	8	0	27	18
	500	1	7	3	14	2	7	1	5	1	8	4	12	3	11	4	9	4	12	1	5	0	—	1	6	0	25	10
	400	2	7	1	11	3	9	8	11	5	14	0	—	0	—	1	4	0	—	2	8	0	—	3	7	0	25	10
	300	0	—	1	18	0	—	7	17	7	14	2	16	1	6	2	7	1	12	2	7	0	—	0	—	0	23	14
	250	0	—	0	—	1	15	8	15	5	12	3	15	2	6	1	10	0	—	1	4	0	—	0	—	0	21	13
	200	0	—	1	8	1	16	7	16	5	29	0	—	1	7	1	6	0	—	1	9	1	2	0	—	0	18	17
	150	0	—	0	—	1	11	5	23	8	31	0	—	2	12	1	7	0	—	0	—	0	—	0	—	0	17	24
	100	0	—	0	—	1	39	7	31	8	32	1	8	0	—	0	—	0	—	0	—	0	—	0	—	0	17	31
	70	0	—	0	—	0	—	5	29	3	41	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	8	34
	60	0	—	0	—	0	—	4	33	3	36	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	7	34
	50	0	—	0	—	0	—	4	34	1	37	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	5	34
	40	0	—	0	—	0	—	3	31	2	45	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	5	36
	30	0	—	0	—	0	—	4	30	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	4	30
	20	0	—	0	—	1	47	3	45	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	4	46
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the wind has been observed for the range of direction during the month.

TN = The total number of cases the wind hasbeen observed for all directions during the month.

REVIEW OF AGRO—METEOROLOGICAL STATIONS

TAHRIR — AUGUST 1969

This month was slightly cooler than last August. The daily maximum air temperatures were slightly below normal most of the month. Three weak heat waves were experienced during the periods (3rd - 4th), (16th - 20th) and (27th - 28th). The first heat wave yielded the highest maximum air temperature for the month (36.4°C) on the 3rd.

The extreme maximum soil temperatures were lower than the corresponding values of last August at all depths between 2,100 cm., and the differences ranged between 4.8°C at both 2,5 cm. and 1.2°C at 100 cm. The extreme minimum soil temperatures were higher than last August at depths between 2,50 cm. with differences ranging between 1,1°C at 5 cm. and 0.1°C at 50 cm. At 100 cm. depth the extreme minimum soil temperature was slightly lower (0.3°C) than last August.

The daily mean pan evaporotion was 0.17 mm. less than the corresponding value of August 1968. The daily mean actual duration of bright sunshine was 0.3 hour less than August 1968.

BAHTIM — AUGUST 1969

This month was the same as last August with respect to the mean daily air temperature. The daily maximum air temperatures were below normal most of the month.

A short heat wave occurred on the 4th yielding the highest maximum air temperature for the month (39.6°C).

The extreme maximum soil temperatures were lower than the corresponding values of last August at depths between 2,50 cm. with differences ranging between 6.3°C at 2cm. and 0.1°C at 50cm. At 100 cm. depth the extreme maximum soil temperature was slightly higher (0.4°C) than last August. The extreme minimum soil tempersture at 2 cm. depth was 1,1°C lower than last August. At other depths between 5,100 cm. the extreme soil minima were higher than last August with differences ranging between 0.9°C at 10 cm. and 0.2°C at 50 cm.

The daily mean pan evaporation was 0.62 mm. less than the corresponging value of August 1968. The daily mean actual duration of bright sunshine was 0.3 hour less than the corresponding value of August 1968.

KHARGA — AUGUST 1969

This month was slightly cooler than last August. The month was characterized by three heat waves during the periods (3rd - 4th), (16th - 21st) and (25th - 31st). The first heat wave yielded the highest maximum air temperature for the month (43.7°C) on the 4th.

The extreme maximum soil temperature was 0.9°C higher than last August at 2 cm. depth, and lower at other depths with differences ranging between 0.8°C at 20 cm. and 0.2°C at 100 cm. The extreme minimum soil temperatures were lower than last August at all depths except at 50 cm. where it was slightly higher (0.2°C), the differences ranged between 1.2°C at 2 cm. and 0.2°C at 100 cm.

The daily mean pan evaporation was 0.93 mm. less than the corresponding value of August 1968. The daily mean actual duration of bright sunshine was the same as August 1968.

Note.—From August 1969, operation of the Agrometeorological station at El Kasr was stopped. Starting from the following month - September 1969, agrometeorological observations were taken at Mersa Matruh station, about 15 kms to the east of El Kasr and its monthly review and monthly values will be included in this bulletin.

Table C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

AUGUST 1969

STATION	Air Temperature (°C)					Mean Duration in hours of daily air temperature above the following values										
	Mean Max.	Mean Min.	Mean of the day	Night time mean	Day time mean	-5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C
Tahrir	33.9	19.5	25.8	22.2	28.6	24.0	24.0	24.0	24.0	24.0	21.8	12.0	6.2	0.0	0.0	0.0
Bahtim	33.3	18.3	25.0	21.1	28.0	24.0	24.0	24.0	24.0	24.0	20.1	10.9	5.4	0.1	0.0	0.0
Kharga	39.3	22.7	31.8	28.4	34.7	24.0	24.0	24.0	24.0	24.0	23.9	20.9	14.4	7.8	1.2	0.0

Table C 2.—EXTREME VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS.

AUGUST 1969

STATION	Max. Temp. at 1½ metres (°C)				Min. Temp. at 1½ metres (°C)				Min. Temp. at 5 cms. above (°C)			
	Hight est		Lowest		Hight est		Lowest		Dry soil		Gress	
	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Value
Tahrir	36.4	3	32.2	11	22.5	15	16.9	17	15.3	17	—	—
Bahtim	39.6	4	30.8	10	20.8	1	15.1	10	13.0	10	—	—
Kharga	43.7	4	36.0	10,11,12	27.6	5	18.4	11	16.0	11	—	—

Table C 3. (SOLAR + SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL.

AUGUST 1969

STATION	(Solar + Sky) Radiation gm. cal/cm²	Duration of Bright Sunshine (hours)			Relative Humidity				Vapour pressure (mms)						Evaporation (mms)		Rainfall (mms)		
		Total Actual monthly	Total Possibly monthly	%	Mean of day	1200 U.T.	Lowest	Date	Mean of day	1200 U.T.	Highest	Date	Lowest	Date	Piche	Pan class A	Total Amount Monthly	Max. Fall in one day	Date
Tahirr	661.5	360.9	410.6	88	68	40	26	3	16.3	14.5	21.1	20	10.7	3	7.8	9.54	0.0	0.0	—
Bahtim	655.7	340.5	409.6	83	72	44	27	4	16.6	15.7	21.6	15	12.1	10	6.8	8.33	0.0	0.0	—
Kharga	550.6	(338.1)	(364.9)	93	27	18	11	4.18	9.0	9.1	16.6	31	5.1	10	24.7	20.36	0.0	0.0	—

Note.—The number of records for the sunshine at Kharga was 28 days only.

Table C 4.– EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS (cms) IN DIFFERENT FIELDS

AUGUST 1969

Stanion	Highest (H) Lowest (L)	Extreme soil temperature (°C) in dry field at different depths (cms.)								Extreme soil temperature (°C) in grass field at different dophts (cms.)							
		2	5	10	20	50	100	200	300	2	5	10	20	50	100	200	3 00
Tahrir	H	53.6	47.0	41.5	36.4	32.0	30.6	29.1	28.2	—	—	—	—	—	—	—	—
	L	27.1	26.5	26.8	30.0	30.9	30.3	28.6	27.8	—	—	—	—	—	—	—	—
Bahtim	H	53.6	45.6	39.4	34.9	32.2	30.7	27.6	25.7	—	—	—	—	—	—	—	—
	L	27.4	28.4	29.7	32.4	31.4	30.0	26.6	25.0	—	—	—	—	—	—	—	—
Kharga . . .	H	58.4	50.7	43.5	37.6	35.3	33.3	31.1	29.7	—	—	—	—	—	—	—	—
	L	21.5	25.3	29.4	32.6	33.9	32.6	30.4	29.0	—	—	—	—	—	—	—	—

Table C 5.—SURFACE WIND

AUGUST — 1969

Station	Wind Speed m/ses at 1½ metres			Days with surface wind speed at 10 metres							Max. Gust. (knots) at 10 metres	
	Mean of the day	Night time mean	day time mean	≥10 knots	≥15 knots	≥20 knots	≥25 knots	≥30 knots	≥35 knots	≥40 knots	value	Date
Tahrir	2.4	1.6	3.2	31	8	—	—	—	—	—	21	6.30
Bahtim				25	6	—		—	—		23	29
Kharga . . .	4.0	2.8	5.2	31	28	14	7	3	1		42	21,29

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

PUBLICATIONS OF THE METEOROLOGICAL AUTHORITY OF THE ARAB REPUBLIC OF EGYPT—CAIRO

In fulfilment of its duties, the Egyptian Meteorological Authority issues serveral reports and publications on weather, climate and agro-meteorology. The principal publications are described on this page.

Orders for publications should be addressed to :

"Chairman of the Board of Directors, Meteorological Authority, Kubri-el-Qubbeh — CAIRO".

THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Authority since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968 this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

As from 1st January 1972, the Daily Weather Report will not be issued or distributed because it does not serve no longer any good purpose as it used to be in the past. The Meteorological Authority is ready to supply the recipients of the Report with any information used to be included in it, if they so desire.

THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for Egypt.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of Egypt as well as monthly values of certain elements.

THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in March 1968 which brings normals and mean values up till 1960.

METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff of "The Meteorological Institute for Research and Training" and the Operational Divisions of the Meteorological Authority.

TECHNICAL NOTES

As from October 1970, the Meteorological Authority started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

THE ARAB REPUBLIC OF EGYPT

MONTHLY WEATHER REPORT

VOLUME 12 NUMBER 9

SEPTEMBER, 1969

U.D.C. 551. 506.1 (62)

THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

CONTENTS

Note : For explanatory notes on the tables please refer to Volume 12, Number 1 (January 1969).

GENERAL SUMMARY OF WEATHER CONDITIONS

SEPTEMBER 1969

Rise in temperature above normal in general. Scattered early morning mist over Lower Egypt and Cairo.

GENERAL DESCRIPTION OF WEATHER

The prevailing weather during this month was generally mild in the northern parts, rather hot in the middle parts and remarkably hot in the southern parts. Three variant heat waves prevailed most days of the month, and were mainly pronounced in land areas. The third heat wave was the most pronounced and prevailed most of the second half of the month. The break down of the heat waves was followed by short mild periods.

The month was rainless, apart from 2.8 mms. over Sallum and 0.8 mms. over Sidi Barani on the 30th.

Rising sand blew during several days over scattered places, mainly in the Western Desert and Red Sea districts. Scattered early morning mist developed during several days over Lower Egypt and Cairo areas.

PRESSURE DISTRIBUTION

The most outstanding features of pressure distibution over the surface maps during this month were :

—The Atlantic anticyclone and its eastward extension.

—Deep depressions moving through North Europe, and secondary depressions through Central Europe.

—A ridge of high pressure over Central Mediterranean and Libya.

—The complex monsoon low pressure over the Arabian gulf, Arabia and North Sudan.

The barometric pressure over Egypt during this month oscillated slightly round normal and experienced six falls reaching its corresponding minima round the 3rd, 8th, 13th, 17th, 23rd, and 27th respectively. The first two falls were due to the slight deepening and elongation of the trough over the Arabian gulf through East Mediterranian. The other four pressure falls were caused by the northward elongation of the Sudan trough. It is noteworthy that these elongations of the monsoon were favoured by the transit of secondary lows or troughs north of the Black Sea area and its vicinities.

On the other hand the barometric pressure over Egypt experienced rises with its corresponding maxima round the 5th, 9th, 16th, 21st and 25th respectively. These pressure rises occurred when high pressure over Central Mediterranean and Libya extended slightly eastwards.

The most important features of pressure distribution over the upper air charts during the month were :

—Deep upper low pressure systems over North Russia and North Atlantic.

—Secondary upper lows or troughs over middle latitudes, passing through East Mediterranean on the 6th, 14th and 20th.

—Upper high pressure belt south of latitude 30°N.

SURFACE WIND

The prevailing winds during this month were generally light to moderate and blew from directions between NW and NE. They became fresh to strong during many days of the month over scattered places in the Western Desert and Red Sea districts.

Gales were reported at Dakhla on the 4th.

TEMPERATURE

Three heat waves prevailed most of this month. Maximum air temperature was above normal in general, and the departure was slight to moderate during the first and second heat waves and moderate to large during the last heat wave. During the mild periods maximum air temperature was slightly below normal.

Maximum air temperature values ranged generally between 28° & 32°C in the northern parts, between 32° & 37°C in the middle parts and between 39° & 44°C in the southern parts.

The absolute maximum air temperature for the month was 47.0°C reported at Kom Ombo on the 1st.

Minimum air temperature was also above normal most days of the month and slightly below normal during few days. The departures above normal were slight to moderate in general.

Minimum air temperature values ranged generally between 18° & 23°C in the northern and middle parts and between 22° C & 27°C in the southern parts.

The absolute minimum air temperature for the month was 14.6°C reported at Beni Suef on the 13th.

PRECIPITATION

No precipitation was reported during this month with the exception of 2.8 mms of rain over Sallum and 0.8 mm. over Sidi Barrani on the 30th.

The highest daily rainfall was 2.8 mm reported over Sallum on the 30th which was also the highest monthly rainfall.

Cairo, March 1972

Chairman (M. F. TAHA)

Board of Directors

Table A 1.—MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, *RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION*

SEPTEMBER 1969

Station	Atmospheric Pressure (mbs) M.S.L.		Air Temperature °C								Relative Humidity %		Bright Sunshine Duration (Hours)			Piche Evaporation (mms.) Mean
			Maximum		Minimum		$\frac{A+B}{2}$	Dry Bulb		Wet Bulb						
	Mean	D.F. Normal or Average	(A) Mean	D.F.Normal or Average	(B) Mean	D.F.Normal or Average		Mean	D.F.Normal or Average	Mean	D.F.Normal or Average	Mean	D.F.Normal or Average	Total Actual	Total Possible	%	
Sallum	1011.6	—2.2	30.6	+1.3	22.3	+2.1	26.4	25.8	+1.0	21.3	+1.2	66	+3	—	—	—	7·2
Mersa Matruh(A).	1013.5	—0.2	29.1	+0.5	20.2	+0.6	24.7	24.7	+0.5	21.1	+1.1	71	+4	313.8	371.1	85	6.8
Alexandria. (A)	1012.8	+0.2	30.3	+0.8	21.8	+0.6	26.0	25.8	—0.2	21.8	+0.6	69	+1	324.6	370.8	88	6.3
Port Said. (A)	1011.7	—0.2	29.6	+0.4	24.3	+0.5	27.0	26.6	+0.5	23.1	+1.0	73	+4	(*298.3)	(346.2)	86	7.4
El Arish.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1012.3	+0.4	33.8	+1.4	19.6	+2.0	26.7	25.6	+1.1	21.2	+1.4	66	+3	312.3	370.3	84	5.0
Cairo. (A)	1011.6	+1.0	34.0	+1.7	20.9	+1.0	27.4	26.8	+1.3	21.1	+0.9	58	0	—	—	—	13.5
Fayoum.	—	—	36.5	+2.8	20.7	+1.1	28.6	28.0	+1.6	21.3	+1.6	53	+2	—	—	—	7.8
Minya. (A)	1010.2	—0.8	36.0	+2.6	19.3	+0.7	27.6	27.6	+2.0	20.4	+0.8	48	+7	320.2	369.7	87	13.9
Assyout. (A)	1009.3	—1.1	37.3	+2.4	19.7	—0.4	28.5	28.8	+1.3	19.8	+1.3	40	+1	—	—	—	17.6
Luxor (A)	1007.5	—0.8	39.6	+1.3	22.7	+1.3	31.2	32.1	+2.1	19.9	+0.5	28	+4	—	—	—	13.1
Aswan. (A)	1006.9	—1.1	41.9	+2.7	24.6	+2.5	33.2	33.2	+2.4	18.3	+1.1	17	—2	—	—	—	28.4
Siwa.	1012.2	—1.2	37.4	+2.5	21.1	+2.8	29.2	29.2	+2.3	19.6	+1.1	36	—5	311.1	372.8	84	14.6
Bahariya	1011.3	—0.6	37.4	+3.4	21.7	+2.9	29.6	29.1	+2.5	20.0	+1.4	39	—4	—	—	—	11.0
Farafra.	1011.7	—1.5	37.6	+3.2	20.4	+1.5	29.0	29.2	+2.5	18.7	+2.2	32	+1	—	—	—	16.6
Dakhla.	1009.8	—0.4	38.9	+3.3	22.5	+2.2	30.7	30.7	+2.7	18.4	+1.2	25	—3	—	—	—	22.5
Kharga	1008.3	—1.7	39.7	+3.1	25.1	+3.8	32.4	32.2	+3.6	19.3	+1.4	29	—3	329.3	368.9	89	26.2
Tor.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada.	1007.6	—0.4	32.8	+2.0	24.6	+1.5	28.7	29.0	+1.2	22.3	+1.3	54	+2	—	—	—	15.4
Quseir.	1007.6	—0.6	31.0	—0.9	25.8	+0.6	28.4	29.1	+1.2	22.1	+0.9	52	—1	—	—	—	18.0

* Actual number of sunshine records at Port Said was 28 days only.

Table A 2.—MAXIMUM AND MINIMUM AIR TEMPERATURE

SEPTEMBER 1969

Station	Maximum Temperature °C									Grass Min. Temp.		Minimum Temperature °C							
	Highest	Date	Lowest	Date	No. of Days with Max-Temp.					Mean	Dev. From Normal	Highest	Date	Lowest	Date	No. of Days with Min. Temp.			
					>25	>30	>35	>40	>45							<10	<5	<0	<-5
Sallum	39.8	19	27.0	28	30	14	2	0	0	21.8	—	25.0	25	18.7	30	0	0	0	0
Mersa Matruh (A)	33.1	16	27.2	27,30	30	4	0	0	0	18.5	—	23.8	25	16.4	22	0	0	0	0
Alexandria . .(A)	34.5	23	27.7	30	30	14	0	0	0	20.2	—	25.0	8	18.2	12	0	0	0	0
Port Said . .(A)	31.3	8	28.5	13	30	6	0	0	0	23.4	—	25.5	23	23.0	10	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	36.3	17	31.2	10	30	30	4	0	0	—	—	21.4	2	17.3	12	0	0	0	0
Cairo . . . .(A)	38.1	17	30.4	10	30	30	8	0	0	—	—	22.6	5·8	18.7	28	0	0	0	0
Fayoum	41.8	17	33.2	10	30	30	22	1	0	19.3	—	22.6	2	19.1	10,14	0	0	0	0
Minya . . . (A)	39.7	17	32.8	15	30	30	18	0	0	16.1	—	22.7	1	17.2	13	0	0	0	0
Assyout . . .(A)	42.0	17	32.2	10	30	30	26	5	0	19.7	—	24.0	26	19.0	13,22	0	0	0	0
Luxor . . . .(A)	46.0	24	37.5	7	30	30	30	23	3	20.2	—	28.2	3	19.0	20·21·22	0	0	0	0
Aswan . . . .(A)	45.6	1	38.4	15	30	30	30	21	3	—	—	29.5	24	20.4	22	0	0	0	0
Siwa	42.4	20	33.7	11	30	30	26	4	0	18.6	—	23.4	25	18.5	11	0	0	0	0
Bahariya	41.3	20	33.6	10	30	30	26	3	0	19.8	—	24.0	25	19.8	30	0	0	0	0
Farafra	41.8	25	33.4	10	30	30	24	6	0	17.4	—	23.8	19·26	18.7	3	0	0	0	0
Dakhla	45.2	26	33.8	10	30	30	27	10	1	—	—	29.8	18	18.4	14	0	0	0	0
Kharga	45.4	25	34.4	10	30	30	29	14	2	23.2	—	30.1	27	21.3	4	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada.	35.3	27	30.7	16	30	30	2	0	0	—	—	28.2	1	22.4	17	0	0	0	0
Quseir	35.4	27	30.6	16	30	30	1	0	0	18.8	—	28.6	2	23.7	16	0	0	0	0

Table A 3.—SKY COVER AND RAINFALL

SEPTEMBER 1969

Station	Mean Sky Cover Oct.					Rainfall mms.										
	00 U.T.	06 U.T.	12 U.T.	18 U.T.	Daily Mean	Total Amount	D. From Normal	Max. Fall in one day		Number of Days with Amount of Rain						
								Amount	Date	<0.1	≥0.1	≥1.0	≥5.0	≥10	≥25	≥50
Sallum	2.2	1.6	1.6	1.4	2·3	2.8	+2.1	2.8	30	0	1	1	0	0	0	0
Mersa Matruh (A)	1.2	3.2	2.2	2.0	2.1	0.0	−1.0	0.0	—	0	0	0	0	0	0	0
Alexandria (A)	2.9	3.1	2.3	2.5	2.7	0.0	—0.5	0.0	—	0	0	0	0	0	0	0
Port Said (A)	—	2.1	1.0	—	—	0.0	—0.1	0.0	—	0	0	0	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	0.5	1.5	0.8	0.3	0.9	0.0	—0.2	0.0	—	0	0	0	0	0	0	0
Cairo (A)	1.0	3.0	0.9	0.3	1.4	0.0	—tr.	0.0	—	0	0	0	0	0	0	0
Fayoum	—	1.5	0.4	0.3	—	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Minya (A)	0.3	1.1	0.3	0.3	0.5	0.0	—0.1	0.0	—	0	0	0	0	0	0	0
Assyout (A)	0.4	0.3	0.2	0.3	0.3	0.0	—tr.	0.0	—	0	0	0	0	0	0	0
Luxor (A)	0.9	0.7	0.8	1.2	0.9	0.0	— 0.1	0.0	—	0	0	0	0	0	0	0
Aswan (A)	0.6	1.0	1.4	1.5	1.2	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Siwa	0.6	1.1	1.3	0.6	0.9	0.0	—0.1	0.0	—	0	0	0	0	0	0	0
Bahariya	0.4	1.1	0.6	0.5	0.7	0.0	—tr.	0.0	—	0	0	0	0	0	0	0
Farafra	—	0.1	0.2	0.1	—	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Dakhla	0.7	0.6	0.3	0.5	0.5	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Kharga	0.8	0.5	0.4	0.6	0.6	0.0	—tr.	0.0	—	0	0	0	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0.4	1.0	1.1	0.8	0.9	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Quseir	1.0	1.1	1.0	1.4	1.1	0.0	—tr.	0.0	—	0	0	0	0	0	0	0

Table A 4. DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA

SEPTEMBER 1969

Station	Precipitation				Frost	Thunderstorm	Mist Vis ≥ 1000 metres	Fog Vis < 1000 Metres	Haze Vis ≥ 1000 Metres	Thick Haze Vis < 1000 Metres	Dust or Sandrising Vis ≥ 1000 Metres	Dust or Sandstorm Vis < 1000 Metres	Gale	Clear Sky	Cloudy Sky
	Rain	Snow	Ice. Pellets	Hail											
Sallum	1	0	0	0	0	1	0	0	0	0	1	0	0	19	1
Mersa Matruh (A)	0	0	0	0	0	0	2	1	0	0	5	0	0	14	1
Alexandria (A)	0	0	0	0	0	0	2	3	0	0	0	0	0	10	0
Port Said (A)	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	0	0	0	0	0	0	5	1	0	0	0	0	0	26	0
Cairo (A)	0	0	0	0	0	0	12	3	5	0	0	0	0	22	0
Fayoum	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
Minya (A)	0	0	0	0	0	0	5	0	0	0	0	0	0	27	0
Assyout (A)	0	0	0	0	0	0	0	0	0	0	0	0	0	29	0
Luxor (A)	0	0	0	0	0	0	0	0	2	0	0	0	0	24	0
Aswan (A)	0	0	0	0	0	0	0	0	0	0	0	0	0	24	0
Siwa	0	0	0	0	0	0	0	0	0	0	0	0	0	26	0
Bahariya	0	0	0	0	0	0	0	0	0	0	0	0	0	26	0
Farafra	0	0	0	0	0	0	0	0	1	0	0	0	0	—	0
Dakhla	0	0	0	0	0	0	0	0	0	0	5	1	1	26	0
Kharga	0	0	0	0	0	0	0	0	0	0	6	0	0	25	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0	0	0	0	0	0	0	0	0	0	5	0	0	24	0
Quseir	0	0	0	0	0	0	0	0	0	0	0	0	0	23	0

Table A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

SEPTEMBER — 1969

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	531 / 344	All directions
Sallum	15	0	0	1—10	20	71	152	74	46	19	9	2	12	19	57	98	579
				11—27	3	17	50	1	2	0	0	0	4	3	17	29	126
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**23**	**88**	**202**	**75**	**48**	**19**	**9**	**2**	**16**	**22**	**74**	**127**	**705**
Mersa Matruh	86	0	0	1—10	110	160	37	15	22	9	7	24	43	59	31	61	578
				11—27	10	22	6	0	0	0	0	0	0	0	14	54	106
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**120**	**182**	**43**	**15**	**22**	**9**	**7**	**24**	**43**	**59**	**45**	**115**	**684**
Alexandria	8	0	0	1—10	79	19	6	6	6	9	13	5	2	43	133	280	601
				11—27	6	0	0	0	0	0	0	0	0	12	52	41	111
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**85**	**19**	**6**	**6**	**6**	**9**	**13**	**5**	**2**	**55**	**185**	**321**	**712**
Port Said	6	1	0	1—10	192	70	5	1	2	1	5	4	30	28	60	224	622
				11—27	22	0	0	0	0	0	0	0	0	12	34	23	91
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**214**	**70**	**5**	**1**	**2**	**1**	**5**	**4**	**30**	**40**	**94**	**247**	**713**
Tanta	131	0	0	1—10	65	8	2	1	2	1	18	19	51	96	163	160	586
				11—27	1	0	0	0	0	0	0	0	0	1	0	1	3
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**66**	**8**	**2**	**1**	**2**	**1**	**18**	**19**	**51**	**97**	**163**	**161**	**589**
Cairo	36	0	14	1—10	91	145	78	27	1	1	0	0	4	14	20	64	445
				11—27	58	114	22	1	0	0	0	0	0	0	0	30	225
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**149**	**259**	**100**	**28**	**1**	**1**	**0**	**0**	**4**	**14**	**20**	**94**	**670**
Fayoum	6	0	11	1—10	395	246	5	0	0	0	0	1	0	0	0	34	681
				11—27	1	21	0	0	0	0	0	0	0	0	0	0	22
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**396**	**267**	**5**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**34**	**703**
Minya	1	0	2	1—10	443	40	1	0	0	0	0	0	0	0	0	24	508
				11—27	190	19	0	0	0	0	0	0	0	0	0	0	209
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**633**	**59**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**24**	**717**

Table A 5 (*cont l.*)—**NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES**

SEPTEMBER — 1969

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	All directions
				1—10	3	0	1	1	1	70	147	77	45	94	39	9	487
				11—27	0	0	0	0	0	0	31	49	47	18	37	4	186
Asyout . . . . . (A)	0	0	47	28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**3**	**0**	**1**	**1**	**1**	**70**	**178**	**126**	**92**	**112**	**76**	**13**	**673**
				1—10	86	27	12	34	18	33	97	49	31	88	137	90	702
				11—27	0	0	1	0	0	0	0	0	0	0	5	1	7
Luxor . . . . . (A)	5	6	0	28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**86**	**27**	**13**	**34**	**18**	**33**	**97**	**49**	**31**	**88**	**142**	**91**	**709**
				1—10	293	76	24	16	17	26	7	3	8	5	12	122	604
				11—27	48	12	1	1	0	1	2	0	0	0	1	36	102
Aswan . . . . . (A)	0	13	1	28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**341**	**88**	**25**	**17**	**17**	**27**	**9**	**3**	**3**	**5**	**13**	**158**	**706**
				1—10	30	78	95	98	75	25	11	10	16	30	62	74	604
				11—27	4	13	14	17	3	0	0	0	0	0	1	14	66
Siwa	44	6	0	28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**34**	**91**	**109**	**115**	**78**	**25**	**11**	**10**	**16**	**30**	**63**	**88**	**670**
				1—10	99	60	18	16	14	18	33	34	34	52	68	156	602
				11—27	28	30	5	0	0	1	0	0	0	0	0	44	108
Dakhla	7	3	0	28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**127**	**90**	**23**	**16**	**14**	**19**	**33**	**34**	**34**	**52**	**68**	**200**	**710**
				1—10	134	38	12	2	3	3	5	6	2	3	16	97	321
				11—27	285	44	1	0	0	0	0	0	0	0	2	62	394
Kharga	2	0	3	28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**419**	**82**	**13**	**2**	**3**	**3**	**5**	**6**	**2**	**3**	**18**	**159**	**715**
				1—10	18	8	1	0	0	0	0	0	0	1	49	47	124
				11—27	175	2	0	0	0	0	0	0	0	2	114	301	594
Hurghada	0	0	0	28—47	0	0	0	0	0	0	0	0	0	0	0	2	2
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**193**	**10**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**163**	**350**	**720**
				1—10	218	20	0	0	0	1	0	0	2	12	35	206	494
				11—27	167	21	0	0	0	0	0	0	0	0	0	28	216
Quseir	3	2	5	28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**385**	**41**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	**12**	**35**	**234**	**710**

UPPER AIR CLIMATOLOGICAL DATA

Table B 1.—MONTHLY MEANS, ABSOLUTE HIGHER AND LOWER VALUES OF ALTITUDE, AIR TEMPERATURE AND DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

SEPTEMBER — 1969

Station	Pressure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh 0000 U.T.	Surface	27	*1010mb.	*1012mb.	*1008mb.	27	23.0	24.8	20.3	27	18.8
	1000	26	115	132	80	26	23.2	27.5	21.2	26	19.4
	850	26	1528	1565	1498	26	19.7	22.9	14.0	26	6.7
	700	26	3170	3221	3128	26	8.8	11.5	4.7	26	—3.7
	600	25	4425	4472	4354	25	0.4	4.4	—5.0	25	—10.8
	500	25	5871	5921	5807	25	— 9.0	— 4.7	—13.1	24	—20.9
	400	25	7554	7612	7472	25	—21.7	—18.0	—24.5	25	—31.3
	300	25	9609	9681	9504	25	—37.6	—33.9	—40.7	24	—47.7
	250	25	10844	10922	10727	25	—46.4	—40.7	—50.1	23	—55.6
	200	23	12299	12403	12156	23	—55.0	—48.1	—62.4	16	—62.1
	150	19	14104	14225	13943	19	—63.1	—58.0	—67.5	1	—63.8
	100	10	16545	16676	16412	10	—68.3	—61.9	—75.3	—	—
	70	4	18688	18740	18600	4	—63.1	—59.5	—67.4	—	—
	60	3	19639	19700	19562	3	—59.1	—58.5	—60.0	—	—
	50	2	20852	20896	20807	2	—58.0	—57.3	—58.6	—	—
	40	1	22220	—	—	1	—57.5	—	—	—	—
	30	1	24064	—	—	1	—53.6	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 0000 U.T.	Surface	28	*995mb.	*997mb.	*992mb.	28	23.0	25.3	21.6	28	18.5
	1000	28	99	117	70	—	—	—	—	—	—
	850	28	1515	1544	1485	28	21.1	27.3	16.0	26	3.7
	700	28	3164	3208	3128	28	10.5	13.7	5.6	27	—7.5
	600	28	4428	4476	4391	28	1.7	6.3	—4.2	26	—14.6
	500	28	5870	5913	5815	28	—8.4	—4.8	—12.8	26	—25.4
	400	28	7563	7620	7480	28	—20.5	—15.4	—26.0	26	—36.6
	300	27	9620	9705	9504	27	—36.3	—32.4	—41.0	25	—49.4
	250	27	10862	10955	10722	27	—45.2	—39.5	—50.4	25	—56.9
	200	26	12320	12425	12129	26	—54.5	—49.1	—60.1	23	—64.6
	150	22	14121	14238	13947	22	—62.7	—59.8	—65.7	1	—67.8
	100	21	16579	16678	16448	21	—68.9	—62.5	—73.7	—	—
	70	14	18722	18790	18640	14	—64.8	—61.9	—68.9	—	—
	60	13	19668	19724	19594	13	—61.1	—59.4	—63.5	—	—
	50	12	20811	20864	20735	12	—58.8	—57.2	—59.8	—	—
	40	10	22218	22247	22133	10	—56.4	—55.3	—58.3	—	—
	30	9	24061	24118	23955	9	—52.9	—50.8	—54.4	—	—
	20	6	26686	26772	26589	6	—49.1	—46.6	—51.1	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan 0000 U.T.	Surface	30	*984mb.	*986mb.	*982mb.	30	28.4	33.0	25.5	29	7.1
	1000	30	55	80	33	—	—	—	—	—	—
	850	30	1498	1517	1466	30	26.0	30.0	22.3	29	1.3
	700	30	3168	3197	3123	30	13.2	15.2	11.7	29	— 7.8
	600	30	4441	4457	4395	30	3.6	8.0	0.0	29	—14.5
	500	30	5894	5929	5851	30	—6.5	—1.8	—13.2	29	—24.2
	400	29	7607	7663	7503	29	—17.4	—15.2	—21.4	28	—35.2
	300	29	9698	9770	9567	29	—33.2	—30.3	—38.8	28	—48.3
	250	27	10953	11037	10817	27	—42.2	—39.1	—45.1	26	—54.9
	200	27	12431	12525	12283	27	—52.0	—41.7	—54.3	25	—63.7
	150	23	14234	14334	14083	23	—64.4	—62.0	—66.7	—	—
	100	23	16652	16743	16518	23	—73.4	—66.2	—78.7	—	—
	70	18	18777	18890	18670	18	—66.1	—62.4	—77.0	—	—
	60	11	19714	19808	19612	11	—62.4	—60.0	—64.3	—	—
	50	11	20845	20940	20744	11	—59.9	—57.9	—61.5	—	—
	40	9	22263	22326	22154	9	—57.6	—55.3	—59.8	—	—
	30	7	24106	24161	24037	7	—52.6	—49.9	—55.8	—	—
	20	4	26746	26791	26665	4	—49.2	—46.7	—51.8	—	—
	10	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.
* = The atmospheric pressure corrected to the elevation of the radiosonde station.

UPPER AIR CLIMATOLOGICAL DATA

Table B 1 (*contd.*)—**MONTHLY MEANS, ABSOLUTE HIGHER AND LOWER VALUES OF ALTITUDE, AIR TEMPERATURE AND DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES**

SEPTEMBER — 1969

Station	Pressure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh 1200 U.T.	Surface	30	*1010mb.	*1013mb.	*1007mb.	30	27.9	31.7	26.0	30	20.4
	1000	30	118	142	91	30	26.7	31.8	22.2	30	18.4
	850	30	1538	1569	1516	30	20.5	25.3	15.7	30	3.5
	700	26	3179	3225	3128	26	9.5	13.1	5.0	26	—6.0
	600	25	4442	4491	4387	25	1.5	6.7	—2.9	25	—13.7
	500	22	5878	5933	5811	22	—8.2	—2.7	—12.4	22	—24.2
	400	20	7570	7659	7475	20	—20.8	—16.4	—24.4	20	—35.2
	300	17	9623	9747	9509	16	—36.0	—27.6	—40.0	15	—48.8
	250	16	10864	10993	10732	16	—45.8	—39.0	—49.5	15	—57.4
	200	15	12319	12465	12152	15	—54.9	—48.0	—61.9	12	—64.5
	150	12	14135	14296	13966	12	—60.5	—57.5	—63.9	3	—65.7
	100	9	16628	16750	16528	9	—64.3	—58.5	—68.8	—	—
	70	5	18776	18810	18720	5	—59.4	—58.0	—61.0	—	—
	60	5	19764	19836	19697	5	—57.4	—56.4	—58.6	—	—
	50	4	20944	21000	20880	4	—55.4	—53.8	—57.5	—	—
	40	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 1200 U.T.	Surface	27	*995mb.	*997mb.	*992mb.	27	33.0	38.0	29.6	27	18.3
	1000	27	92	113	67	—	—	—	—	—	—
	850	27	1527	1559	1503	27	21.8	27.3	14.2	26	1.8
	700	27	3182	3217	3141	27	11.6	14.2	7.1	26	— 9.4
	600	27	4450	4484	4410	27	2.9	9.3	—1.7	26	—16.5
	500	27	5899	5957	5839	27	—7.3	—1.2	—11.7	26	—26.8
	400	25	7597	7700	7511	25	—19.7	—16.2	—24.6	24	—37.7
	300	25	9674	9789	9546	25	—35.4	—29.8	—39.2	24	—50.8
	250	24	10463	11016	10769	24	—42.7	—38.2	—49.7	22	—58.7
	200	23	12383	12547	12202	23	—53.4	—48.5	—59.8	22	—65.6
	150	23	14200	14338	14019	23	—61.3	—58.0	—63.9	4	—71.4
	100	18	16577	16869	16541	18	—67.9	—63.0	—73.4	—	—
	70	14	18854	19000	18720	14	—61.2	—59.5	—63.9	—	—
	60	13	19813	19990	19701	13	—57.7	—51.9	—60.0	—	—
	50	11	20987	21150	20845	11	— 54.4	— 41.7	— 58.5	—	—
	40	7	22433	22592	22292	7	—52.3	—50.5	—55.4	—	—
	30	5	24325	24478	24252	5	—48.6	—46.2	—50.5	—	—
	20	5	27013	27170	26993	5	—44.5	—41.2	—45.7	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan 1200 U.T.	Surface	30	*984mb.	*986mb.	*982mb.	30	39.9	44.0	35.5	30	8.4
	1000	30	46	84	26	—	—	—	—	—	—
	850	30	1510	1527	1484	30	26.9	31.3	23.0	30	—1.1
	700	29	3185	3212	3141	29	14.4	16.1	11.6	29	—10.3
	600	27	4464	4492	4429	27	4.3	8.0	0.6	27	—17.3
	500	26	5920	5953	5883	26	—5.4	— 1.2	—9.8	26	—25.6
	400	26	7637	7688	7587	26	—16.6	—13.2	—20.2	26	—36.7
	300	26	9737	9801	9663	26	—32.3	—30.0	—35.5	26	—49.0
	250	26	11001	11076	10913	26	—40.8	—38.4	—44.4	26	—56.3
	200	25	12490	12566	12380	25	—51.2	—47.3	—53.9	25	—64.6
	150	25	14312	14383	14195	25	—62.8	—58.2	—66.3	2	—70.7
	100	22	16748	16863	16620	22	—71.9	—66.5	—76.6	—	—
	70	16	18887	19044	18782	16	—65.3	—59.0	—71.6	—	—
	60	10	19823	19906	19765	10	—61.1	— 56.8	—68.0	—	—
	50	10	20968	21059	20903	10	—57.4	—54.7	—61.7	—	—
	40	7	22386	22501	22327	7	—53.2	—50.0	—56.7	—	—
	30	6	24267	24408	24183	6	—48.2	—44.0	—52.4	—	—
	20	3	26999	27177	26900	3	—39.7	—35.7	—41.8	—	—
	10	—	—	—	—	—	—	—	—	—	—

N — The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of th radiosonde station.

Table B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE, THE HIGHEST WIND SPEED IN THE UPPER AIR

SEPTEMBER — 1969

	Station	Freezing Level									First Tropopause									Highest wind speed			
		Mean			Highest			Lowest			Mean			Highest			Lowest						
		Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Direction (000—360)	Speed in Knots
0000 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	M. Matruh (A)	4492 (24)	596 (24)	—11.8 (23)	5140	548	—15.8	3750	649	— 7.8	12684 (9)	191 (9)	—60.4 (9)	15630	117	—72.5	10720	255	—46.5	10040	283	320	82
	Helwan . . .	4699 (28)	579 (28)	—15.7 (27)	5300	538	—18.7	3800	644	— 6.0	14594 (19)	142 (19)	—66.2 (19)	17260	90	—72.8	11540	223	—55.8	13370	170	240	166
	Aswan . . (A)	4999 (30)	561 (30)	—17.8 (29)	5680	516	—22.7	4453	599	—12.1	16175 (20)	109 (20)	—73.2 (20)	17320	89	—75.2	14530	139	—67.7	14445	142	260	71
1200 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	M. Matruh (A)	4643 (24)	584 (24)	—14.6 (24)	5510	526	—21.4	3800	644	—12.5	13414 (10)	172 (10)	—61.8 (10)	16300	108	—67.8	11200	236	—52.7	13660	166	300	101
	Helwan . . .	4913 (27)	565 (27)	—18.9 (26)	5800	510	—24.3	4260	611	—11.9	14319 (16)	152 (16)	—64.7 (16)	17100	96	—70.6	11710	223	—55.0	11710	223	295	105
	Aswan . . (A)	5110 (26)	556 (26)	—20.2 (26)	5770	510	—22.8	4560	592	—16.3	16388 (18)	107 (18)	—72.4 (18)	17580	87	—78.6	15300	128	—68.8	12715	193	207	72

N — The Number of cases the element has been observed during the month.

Table B 8.—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

MERSA MATRUH (A)—SEPTEMBER 1969

Station	Pressure Surface (Millibar)	Wind between specified ranges of direction (000–360°)																								Number of calm winds	Total number of observations (TN)	Mean scalar wind speed (knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	4	9	4	10	0	—	0	—	0	—	1	2	0	—	1	6	3	5	1	6	2	10	3	11	8	27	6
	1000	5	11	8	10	2	7	1	2	0	—	0	—	1	2	0	—	0	—	0	—	3	13	5	13	1	26	10
	850	5	20	7	16	2	18	0	—	0	—	0	—	0	—	0	—	2	12	0	—	7	15	3	14	0	26	16
	700	6	17	1	33	0	—	0	—	0	—	0	—	1	19	0	—	0	—	3	14	6	14	9	26	0	26	20
	600	4	21	2	8	0	—	0	—	0	—	0	—	0	—	0	—	3	10	4	16	9	21	3	33	0	25	19
	500	1	24	2	16	1	14	0	—	0	—	0	—	0	—	0	—	4	21	7	17	7	27	3	29	0	25	22
	400	1	21	2	18	1	13	0	—	0	—	0	—	0	—	0	—	5	29	7	20	7	28	2	42	0	25	25
	300	1	30	0	—	0	—	0	—	0	—	0	—	0	—	1	12	6	28	8	33	5	29	3	52	0	24	32
	250	1	29	0	—	0	—	0	—	0	—	0	—	0	—	4	30	7	36	4	40	4	47	2	30	0	22	37
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	34	6	52	2	54	2	50	1	18	42
	150	0	—	0	—	0	—	0	—	0	—	0	—	1	19	2	14	3	44	5	41	3	35	0	—	0	14	36
	100	0	—	0	—	0	—	0	—	0	—	0	—	1	18	1	18	2	30	1	20	1	18	0	—	0	6	22
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	12	0	—	0	—	0	—	1	11	0	3	11
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	12	0	—	0	—	0	—	0	1	12
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	9	10	9	10	1	13	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	15	9	13	0	30	12
	1000	12	12	6	12	1	13	1	7	0	—	0	—	0	—	0	—	0	—	0	—	0	—	10	16	0	30	13
	850	3	13	3	18	1	24	2	9	0	—	0	—	0	—	0	—	0	—	3	9	6	16	11	15	0	29	15
	700	4	26	3	12	0	—	0	—	0	—	0	—	0	—	1	5	0	—	6	15	4	29	8	18	0	26	19
	600	2	24	0	—	0	—	0	—	0	—	0	—	2	4	0	—	3	14	4	17	6	29	7	27	0	24	22
	500	1	20	0	—	1	13	0	—	0	—	0	—	0	—	0	—	5	20	3	17	7	26	3	23	0	20	22
	400	1	13	0	—	1	10	0	—	0	—	0	—	0	—	0	—	4	30	3	23	9	28	1	15	0	19	25
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	12	6	27	3	26	3	32	0	—	0	14	26
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	34	2	27	3	36	3	33	0	—	0	12	33
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	25	6	37	2	48	0	—	0	11	36
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	41	4	33	3	43	1	45	0	—	0	9	38
	100	0	—	0	—	0	—	0	—	0	—	0	—	1	10	3	16	2	30	1	16	0	—	0	—	0	7	19
	70	0	—	0	—	1	5	0	—	0	—	0	—	1	8	1	4	0	—	0	—	1	7	0	—	0	4	6
	60	0	—	0	—	0	—	1	11	0	—	1	9	0	—	1	7	0	—	0	—	0	—	0	—	0	3	10
	50	0	—	0	—	0	—	1	12	1	14	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	13
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

Table B 3 (contd.)—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

HELWAN — SEPTEMBER 1969

Station	Prussure Surface (Millibar)	Wind between specified ranges of direction (000–360°)																						Number of calm winds	Total number of observations (TN)	Mean scalar wind speed (knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 135		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	ff) m			
0000 U.T.	Surface	9	6	10	9	5	7	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	3	2	4	1	28	7
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	4	23	4	22	0	—	0	—	0	—	1	3	4	10	0	—	1	5	1	14	4	14	9	22	0	28	18
	700	3	25	1	24	0	—	0	—	1	21	3	22	1	10	5	17	1	9	1	21	6	24	6	19	0	28	20
	600	0	—	1	23	0	—	0	—	0	—	0	—	2	17	6	18	4	22	6	19	7	15	2	32	0	28	19
	500	0	—	2	10	0	—	0	—	0	—	3	16	2	11	5	24	9	27	3	23	4	25	0	—	0	28	22
	400	2	14	0	—	0	—	0	—	0	—	0	—	3	21	4	36	13	35	4	40	2	32	0	—	0	28	32
	300	1	20	0	—	0	—	0	—	0	—	0	—	2	28	3	61	12	49	2	21	2	40	2	16	0	24	42
	250	0	—	1	29	0	—	0	—	0	—	1	15	0	—	6	64	10	55	4	42	2	30	0	—	0	24	50
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	67	10	53	2	66	1	22	0	—	0	19	63
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	64	7	63	2	40	0	—	0	—	0	11	59
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	47	1	29	0	—	0	—	0	—	0	2	38
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	5	12	7	13	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	9	10	9	0	27	11
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	7	14	4	22	0	—	0	—	0	—	0	—	1	6	0	—	2	12	2	14	2	12	9	20	0	27	16
	700	5	29	0	—	1	12	0	—	1	19	1	13	3	28	2	18	3	16	2	12	7	20	2	33	0	27	22
	600	4	20	0	—	0	—	0	—	0	—	0	—	3	32	5	28	4	16	2	23	6	22	3	25	0	27	23
	500	0	—	1	20	0	—	0	—	0	—	0	—	3	20	5	31	5	18	9	17	3	26	1	11	0	27	21
	400	1	15	1	6	0	—	0	—	1	21	0	—	3	27	4	38	4	30	8	28	3	29	0	—	0	25	28
	300	0	—	2	10	0	—	0	—	0	—	0	—	0	—	5	41	8	48	6	41	2	43	0	—	0	23	41
	250	1	16	1	13	0	—	0	—	0	—	0	—	0	—	4	49	8	66	6	48	2	76	0	—	0	22	54
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	64	12	62	3	32	1	60	0	—	0	20	58
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	48	8	61	3	42	0	—	0	—	0	16	54
	100	0	—	0	—	0	—	0	—	0	—	0	—	1	41	1	33	3	27	1	20	0	—	0	—	0	6	29
	70	0	—	0	—	1	30	0	—	1	34	0	—	0	—	1	14	1	22	0	—	0	—	0	—	0	4	25
	60	0	—	0	—	0	—	0	—	1	21	0	—	0	—	0	—	0	—	0	—	1	22	0	—	0	2	22
	50	0	—	0	—	1	16	1	29	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	22
	40	1	24	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	24
	30	0	—	0	—	0	—	1	16	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	16
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the wind has been observed for the range of direction during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

Table B 3 (*contd.*)— NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

ASWAN (A) — SEPTEMBER 1969

Station	Pressure Surface (Millibar)	Wind between specified ranges of direction (000—360)°																								Number of calm winds	Total number of observations (TN)	Mean speed wind speed (knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 135		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	14	8	4	8	1	3	1	7	0	—	0	—	0	—	0	—	0	—	0	—	1	8	9	8	0	30	8
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	3	14	9	14	1	10	3	11	5	11	0	—	0	—	0	—	0	—	1	3	3	4	4	12	0	29	11
	700	1	13	1	22	3	16	4	8	1	7	0	—	0	—	3	17	8	9	4	10	2	4	2	6	0	29	11
	600	3	7	0	—	3	14	2	12	5	8	0	—	1	10	1	32	4	14	9	6	1	8	0	—	0	29	10
	500	2	8	3	6	1	20	2	6	1	6	3	10	3	11	5	10	6	10	1	16	1	5	1	7	0	29	9
	400	0	—	2	12	1	8	0	—	0	—	1	4	2	24	7	15	8	20	6	11	1	16	1	4	0	29	15
	300	0	—	0	—	0	—	0	—	0	—	0	—	2	12	8	26	16	24	3	14	0	—	0	—	0	29	23
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	9	28	17	33	1	19	0	—	0	—	0	27	31
	200	0	—	0	—	0	—	0	—	0	—	0	—	4	22	5	26	12	39	3	30	1	31	0	—	0	25	32
	150	0	—	0	—	0	—	0	—	1	21	2	7	4	21	2	26	11	31	3	35	0	—	0	—	0	23	27
	100	0	—	0	—	2	12	0	—	3	15	3	12	6	19	1	7	3	10	2	8	1	19	1	20	0	22	14
	70	0	—	0	—	2	14	6	13	4	14	1	7	1	12	0	—	0	—	0	—	0	—	0	—	0	14	13
	60	0	—	0	—	0	—	5	18	4	13	1	10	1	15	0	—	0	—	0	—	0	—	0	—	0	11	15
	50	0	—	0	—	1	20	8	20	1	15	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	10	19
	40	0	—	1	22	0	—	6	28	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	7	27
	30	0	—	0	—	2	34	3	27	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	5	30
	20	0	—	0	—	0	—	2	45	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	45
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	12	7	1	7	0	—	1	12	1	3	2	6	2	4	0	—	0	—	2	4	1	12	6	7	2	30	6
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	4	12	2	12	1	8	1	4	5	7	2	7	1	5	0	—	2	13	3	6	3	11	4	11	0	28	9
	700	0	—	1	13	1	14	2	10	2	13	2	2	2	10	2	8	7	20	5	15	0	—	4	6	0	28	13
	600	1	3	2	8	4	19	0	—	3	10	1	7	2	8	3	10	4	14	2	8	3	8	1	6	0	26	9
	500	2	8	1	21	2	6	0	—	1	5	1	7	3	9	3	10	8	12	1	6	2	5	1	10	0	25	10
	400	1	10	1	13	0	—	0	—	1	20	0	—	4	15	10	13	6	13	2	12	0	—	0	—	0	25	13
	300	0	—	0	—	0	—	0	—	0	—	0	—	1	11	10	26	8	21	4	19	2	30	0	—	0	25	23
	250	0	—	0	—	1	13	0	—	0	—	0	—	1	19	6	21	14	31	2	18	0	—	0	—	0	24	27
	200	0	—	0	—	0	—	0	—	0	—	0	—	1	21	7	29	14	31	2	34	0	—	0	—	0	24	30
	150	0	—	0	—	0	—	0	—	0	—	2	15	3	21	6	24	11	31	1	22	0	—	0	—	0	23	26
	100	0	—	0	—	0	—	1	18	1	14	4	14	2	14	4	18	2	8	6	12	0	—	0	—	0	20	14
	70	0	—	0	—	1	11	7	16	1	17	1	13	0	—	0	—	0	—	0	—	0	—	0	—	0	10	16
	60	0	—	0	—	2	20	6	20	1	15	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	9	19
	50	0	—	0	—	0	—	7	20	2	35	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	9	23
	40	0	—	0	—	0	—	5	27	1	15	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	6	25
	30	0	—	0	—	0	—	2	30	2	30	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	4	30
	20	0	—	0	—	0	—	1	30	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	30
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N — The number of cases the wind has been observed for the range of direction during the month.

TN — The total number of cases the wind has been observed for all directions during the month.

REVIEW OF AGRO-METEOROLOGICAL STATIONS

MERSA MATRUH — SEPTEMBER 1969

This month was slightly warmer than normal and rainless. The daily maximum air temperatures were above normal most of the month. Two heat waves occurred on the 16th and during the period (19th - 23rd). The first heat wave yielded the highest maximum air temperature for the month (33.1°C) and the lowest relative humidity (27 %).

The mean daily actual duration of bright sunshine was 0.3 hour less than the corresponding value of El Kasr in September 1968.

TAHRIR — SEPTEMBER 1969

This month was warmer than last September. The daily maximum air temperatures were above normal most of the month. Four heat waves were experienced during the periods (3rd - 4th), (7th - 8th), (17th - 20th) and (22nd - 26th). The third heat wave yielded the highest maximum air temperature for the month (36.8°C) on the 17th. The last heat wave was associated with the lowest value of relative humidity (33%) on the 23rd.

The extreme maximum soil temperotures were slightly higher (0.2°C) than the corresponding value of last September at both 2 & 20 cm. depths, and lower at all other depths with small differences ranging between 1.0, 0.1°C.

The extreme minimum soil temperatures were higher than the corresponding values of last September at all depths with differences ranging between 3.4°C at 2 cm. and 0.9°C at 100 cm.

The mean daily Pan evaporation was 0.49 mm. more than the corresponding value of September 1968. The mean daily actual duration of bright sunshine was slightly more (0.1 hour) than September 1968.

BAHTIM — SEPTEMBER 1969

This month was warmer than last September. The daily maximum air temperatures were above average most of the month. Four heat waves were experienced during the periods (3rd - 4th), (7th - 8th), (17th - 20th) a nd (22rd - 27th). The third heat wave yielded the highest maximum air temperature (37.5°C) and the lowest value of relative humidity (22%) on the 17th.

The extreme maximum soil temperatures were lower than the corresponding values of last September at 2,5 cm. depths by 1.9°C, 2.8°C respectively. At 10 cm. depth its value was the same as last September, and at deeper depths between 20,100 cm. its values were slightly higher (0.4° to 0.5°C). The extreme minimum soil temperatures were higher than last September at all depths, and the differences ranged between 3.3°C at 10 cm. and 0.6°C at 100 cm.

The mean daily Pan evaporation was 0.40 mm. more than the corresponding value of September 1968. The mean daily actual duration of bright sunshine was 0.4 hour less than September 1968.

KHARGA — SEPTEMBER 1969

This month was warmer than normal. The daily maximum air temperatures were above normal most of the month. The month was characterized by five heat waves during the periods (1 st - 6th) , (8th - 9th), (13th - 14th), (17th - 20th) and (23rd – 30th) The last heat wave was the most excessive, and yielded the highest maximum air temperature for the month (45.5°C) and the lowest value of relative humidity (10%) on the 25th

The extreme maximum soil temperatures were higher than the corresponding vlaues of last September at all depths except at 100 cm where it was slightly lower (0.2°C), the differences ranged between 1.7°C at 2 cm. and 0.3°C at 50 cm. The extreme minimum soil temperatures were higher than last September at all depths with differences ranging between 3.6°C at 5 cm. and 0.7°C at 100 cm.

The mean daily Pan evaporation was 2.33 mm. more than the corresponding value of September 1968. The mean daily actual duration of bright sunshine was 0.3 hour less than September 1968.

Table C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

SEPTEMBER — 1969

Station	Air Temperature (°C)					Mean Duration in hours of daily air temperature above the following values										
	Mean Max.	Mean Min.	Mean of the day	Night time mean	Day time mean	—5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C
Mersa Matruh. . .	29.1	20.2	24.8	22.6	26.9	24.0	24.0	24.0	24.0	24.0	22.2	11.3	0.4	0.0	0.0	0.0
Tahrir	34.0	19.2	25.6	21.9	29.4	24.0	24.0	24.0	24.0	24.0	21.3	11.5	5.8	0.0	0.0	0.0
Bahtim	33.9	17.6	25.2	21.1	29.3	24.0	24.0	24.0	24.0	24.0	19.3	11.4	6.1	0.1	0.0	0.0
Kharga	39.7	25.1	32.4	29.3	35.5	24.0	24.0	24.0	24.0	24.0	24.0	22.5	15.1	7.4	1.5	0.0

Table C 2.—EXTREME VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS.

SEPTEMBER — 1969

Station	Max. Temp. at 1½ metres (°C)				Min. Temp. at 1½ metres (°C)				Min. Temp. at 5 cms. above (°C)			
	Highest		Lowest		Highest		Lowest		Dry soil		Grass	
	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Value
Mersa Matruh. . .	33.1	16	27.2	27,30	23.8	25	16.4	22	13.5	22	—	—
Tahrir	36.8	17	32.1	30	21.1	8	16.7	22	15.0	22	—	—
Bahtim	37.5	17	31.6	10	20.8	2	15.1	13	13.0	13	—	—
Kharga	45.4	25	34.4	10	30.1	27	21.3	4	18.6	23	—	—

Table C 3.—(SOLAR + SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL.

SEPTEMBER — 1969

Station	(Solar + Sky) Radiation gm. cal/cm²	Duration of Bright Sunshine (hours)			Relative Humidity				Vapour pressure (mms)						Evaporation (mms)		Rainfall (mms)		
		Total Actual monthly	Total Possibly monthly	%	Mean of day	1200 U.T.	Lowest	Date	Mean of day	1200 U.T.	Highest	Date	Lowest	Date	Piche	Pan class A	Total Amount Monthly	Max. Fall in one day	Date
Mersa Matruh. .	—	313.8	371.1	85	72	61	27	16	16.5	17.0	21.6	17	9.0	16	6.8	—	0.0	0.0	—
Tahrir	561.3	315.3	370.6	85	72	41	33	23	17.1	15.6	21.9	8	11.6	12	7.5	8.82	0.0	0.0	—
Bahtim	582.6	310.1	370.6	84	69	38	22	17	15.7	14.3	20.7	2	11.2	17	8.1	8.53	0.0	0.0	—
Kharga	495.7	329.3	368.9	89	29	19	10	25	10.0	9.7	17.6	1	5.3	2	26.2	20.93	0.0	0.0	—

Table C 4.—EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS (cms) IN DIFFERENT FIELDS

SEPTEMBER — 1969

Station	Highest (H) Lowest (L)	Extreme soil temperature (°C) in dry field at different depths (cms.)								Extreme soil temperature (°C) in grass field at different dephts (cms.)							
		2	5	10	20	50	100	200	300	2	5	10	20	50	100	200	300
Mersa Matruh	H	43.5	38.2	34.1	30.8	28.7	27.3	25.3	—	—	—	—	—	—	—	—	—
	L	23.1	22.2	23.5	26.1	27.3	26.8	24.7	—	—	—	—	—	—	—	—	—
Tahrir	H	51.4	45.2	40.0	35.6	31.6	30.6	29.2	28.3	—	—	—	—	—	—	—	—
	L	25.9	24.6	25.2	28.8	29.8	29.8	28.9	28.2	—	—	—	—	—	—	—	—
Bahtim	H	50.6	43.9	38.8	34 7	32.1	30.7	28.1	26.4	—	—	—	—	—	—	—	—
	L	26.4	26.4	28.4	31.0	30.7	30.2	27.5	25.9	—	—	—	—	—	—	—	—
Kharga . . .	H	53.7	47.5	41.6	37.2	35.0	33.4	31.4	30.3	—	—	—	—	—	—	—	—
	L	23.5	26.7	30.0	32.6	33.6	33.1	31.0	29.7	—	—	—	—	—	—	—	—

Table C 5.—SURFACE WIND

SEPTEMBER — 1969

Station	Wind Speed m/sec at 1½ m			Days with surface wind speed at 10 metres							Max. Gust. (knots) at 10 metres	
	Mean of the day	Night time mean	day time mean	≥10 knots	≥15 knots	≥20 knots	≥25 knots	≥30 knots	≥35 knots	≥40 knots	value	Date
Mersa Matruh	3.5	2.5	4.5	29	10	5	0	0	0	0	25	25
Tahrir	2.1	1.2	3.0	30	8	0	0	0	0	0	23	21
Bahtim	2.0	1.1	3.0	28	6	0	0	0	0	0	23	11
Kharga . . .	4.5	3.7	5.4	29	29	21	6	0	0	0	37	20

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THE ARAB REPUBLIC OF EGYPT

MONTHLY WEATHER REPORT

VOLUME 12 NUMBER 10

OCTOBER, 1969

U.D.C. 551, 506.1 (62)

THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

PUBLICATIONS OF THE METEOROLOGICAL AUTHORITY OF THE ARAB REPUBLIC OF EGYPT—CAIRO

In fulfilment of its duties, the Egyptian Meteorological Authority issues serveral reports and publications on weather, climate and agro-meteorology. The principal publications are described on this page.

Orders for publications should be addressed to :

"Chairman of the Board of Directors, Meteorological Authority, Kubri-el-Qubbeh — CAIRO".

THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Authority since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968 this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

As from 1st January 1972, the Daily Weather Report will not be issued or distributed because it does not serve no longer any good purpose as it used to be in the past. The Meteorological Authority is ready to supply the recipients of the Report with any information used to be included in it, if they so desire.

THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for Egypt.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of Egypt as well as monthly values of certain elements.

THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in March 1968 which brings normals and mean values up till 1960.

METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff of "The Meteorological Institute for Research and Training" and the Operational Divisions of the Meteorological Authority.

TECHNICAL NOTES

As from October 1970, the Meteorological Authority started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

THE ARAB REPUBLIC OF EGYPT

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

CONTENTS

Note : For explanatory notes on tables please refer to Volume 12, Number 1 (January 1969).

GENERAL SUMMARY OF WEATHER CONDITIONS

OCTOBER 1969

Changeable, characterized with three transitory disturbances. Instability heavy rain between the 7th & 10th with local floods over scattered localities.

GENERAL DESCRIPTION OF WEATHER

The prevailing weather during this month was generally mild in the northern and middle parts, rather hot in the southern parts. Three variant heat waves were experienced round the periods (1st - 7th), (18th - 19th) and (26th - 28th) and were mainly pronounced in land areas.

The month was characterized by two distinct rainy periods: (3rd - 10th) and (17th - 26th), during which rain of variant amounts fell over many parts of the Republic, and was associated at times with scattered lightning and thunderstorms. Rain was occasionally heavy causing floods between the 7th. and 10th over scattered parts in Lower Egypt area, Giza, Beni Suef and Aswan provinces.

PRESSURE DISTRIBUTION

The oustanding pressure systems over the synoptic surface charts during this month were :

—Deep low pressure systems over North Europe.

—The Atlantic anticyclone and its eastward extension.

—Local anticyclones over Europe and their extensions over the Mediterranean Sea.

—Desert secondaries moving south of the coast of North Africa.

—Monsoon low pressure over Sudan and Arabia.

During this month three desert secondaries were distinguished, they originated near Tunisia on the 17th, 22nd and 29th respecively and proceeded eastwards. The first and second secondaries passed through north of Egypt on the 19th and 28th respectively. The last desert secondary reached the gulf of Serte on the 30th and then moved northeastwards to Crete on the 31st.

The Sudan trough showed three northward elongations during the periods (2nd - 7th) & (11th - 13th) and (25th - 27th). These elongations associated the transit of deep low pressure troughs north of the Black and Caspian Seas area.

The barometric pressure over Egypt. was influenced by the above mentioned transits of desert secondaries and northward elongations of the Sudan trough, and the subsequent eastward extension of high pressure over the Mediterranean. Accordingly it showed consecutive oscillations reaching minima round the 7th, 13th, 19th, 25th, 28th and 31st respectively.

The most outstanding pressure systems over the synoptic upper air charts during the month were :

—The deep upper low pressure systems over North Atlantic and North Eurasia.

—Secondary upper troughs or lows through the Mediterranean and its vicinities traversing East Mediterranean on the 2nd, 11th, 15th and 21st, the second of which was the most remarkable.

—Upper high pressure belt over the subtropical latitudes.

SURFACE WIND

Light to moderate N/NW winds prevailed most days of this month in general. They became fresh to strong during few days over scattered parts mainly in the Western Desert and Red Sea districts.

TEMPERATURE

Maximum temperature was oscillatory and its variability was slight in the northern parts, moderate in the middle parts and large in the southern parts. Maximum air temperature values ranged most days of the month between 24° &28°C in the northern parts, between 26°, 34°C in the middle parts, between 32°, 42°C in the southern parts.

The highest maximum air temperature for the month was 44.2 °C reported at Aswan on the 1st.

Minimum air temperature was above normal in general and its variability was slight to moderate. Its values ranged generally between 15° & 21°C in the northern and middle parts and between 19° & 25°C in the southern parts.

The absolute minimum air temperature for the month was 9.4°C reported at Farafra on the 23rd & 24th.

PRECIPITATION

Two rainy periods were distinguished during this month, the first between the 3rd and 10th, and the second between the 17th and 25th. During these two periods rain of variant intensity fell over most of the districts, and was associated at times with scattered thunderstorms and lightning. Rain was heavy over scattered parts between the 7th & 10th and on the 20th & 21st.

It is worthy to mention that accumulated heavy rain over the Eastern Desert broke up in destructive floods over scattered provinces along the Nile and in the eastern part of Delta between the 7th & 10th.

The highest daily rainfall was 45.4 mm. over Ras El Hikma on the 8th.

The highest monthly rainfall was 107.9 mm. over Ras El Hikma.

Cairo, March 1972

Chairman (M. F. TAHA)
Board of Directors

Table A 1.—MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION

OCTOBER — 1969

STATION	Atmospheric Pressure (mbs) M.S.L.		Air Temperature °C									Relative Humidity %		Bright Sunshine Duration (Hours)			Piche Evaporation mms.
			Maximum		Minimum		A+B / 2	Dry Bulb		Wet Bulb							
	Mean	D.F. Normal or Average	(A) Mean	D.F. Normal or Average	(B) Mean	D.F. Normal or Average		Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Total Actual	Total Possible	%	Mean
Sallum	1012.1	—4.1	26.2	—1.2	18.7	+0.8	22.4	22.4	—0.2	18.6	+0.4	68	+4	—	—	—	5.6
Mersa Matruh (A)	1014.7	—1.7	26.0	—1.0	17.9	+1.1	22.0	21.8	+0.1	18.7	+0.9	73	+7	249.8	353.6	71	6.3
Alexandria (A)	1014.2	—1.6	27.1	—0.7	18.5	+0.8	22.8	22.5	—0.2	19.1	+0.3	71	+3	(260.8)	(342.8)	(76)	5.8
Port Said (A)	1013.1	—2.0	27.1	—0.2	21.7	—0.1	24.4	24.0	—0.1	20.3	0.0	70	+1	265.7	354.2	75	8.4
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1013.7	—1.7	29.8	—0.3	17.2	+1.7	23.5	22.5	+0.4	18.7	+0.7	68	+3	286.2	354.5	81	4.4
Cairo (A)	1013.2	—2.0	29.8	—0.1	18.5	+0.7	24.2	23.5	0.0	18.6	+0.4	60	+2	—	—	—	11.3
Fayoum	—	—	31.5	+0.1	17.7	+0.4	24.6	24.3	+0.2	18.6	+0.6	55	+3	—	—	—	5.8
Minya (A)	1012.5	—1.7	32.0	+0.6	17.1	+1.5	24.6	24.2	+1.0	17.8	+0.3	50	—5	301.1	356.6	84	10.8
Assyout (A)	1011.4	—2.2	32.9	+1.8	18.6	+0.6	25.8	25.3	+0.9	17.2	—0.1	40	—6	—	—	—	15.4
Luxor (A)	1010.4	—1.4	36.4	+1.3	19.2	+1.6	27.8	27.6	+2.7	18.7	+0.8	38	—1	—	—	—	9.6
Aswan (A)	999.6	—1.6	37.2	+0.3	21.6	+2.2	29.4	29.0	+0.8	17.2	+1.4	25	+5	—	—	—	22.4
Siwa	1013.1	—2.9	31.2	—0.4	17.3	+2.4	24.2	24.0	+0.9	16.8	+0.8	45	+1	275.5	355.8	78	9.5
Bahariya	1012.9	—1.6	32.2	+1.1	18.1	+2.1	25.2	24.5	+0.7	17.3	+0.7	46	—3	—	—	—	8.1
Farafra	1013.8	—2.4	31.9	+0.6	17.5	+2.1	24.7	24.1	+0.9	16.3	+1.5	40	+4	—	—	—	16.7
Dakhla	1012.6	—0.3	33.8	+1.6	17.9	+0.8	25.8	25.7	+1.0	16.4	+1.3	34	+4	—	—	—	16.9
Kharga	1011.3	—1.6	34.7	+0.6	20.4	+2.0	27.6	27.5	+1.8	16.5	+0.3	31	—2	(284.5)	(322.5)	(88)	19.1
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	1010.4	—1.7	30.3	+1.5	21.6	+1.7	25.9	26.0	+1.1	20.5	+1.3	59	+3	—	—	—	13.5
Ouseir	1010.5	—1.7	30.0	—0.1	23.4	+0.6	26.7	26.9	+1.0	21.0	+1.4	57	+4	—	—	—	14.1

Note : actual number of sunshine records at Alexandria was 30 days and at Kharga was 28 days.

Table A 2.—MAXIMUM AND MINIMUM AIR TEMPERATURE

OCTOBER — 1969

Station	Maximum Temperature °C									Grass Min. Temp.		Minimum Temperature							
	Highest	Date	Lowest	Date	No. of Days with Max-Temp.					Mean	D. From Normal	Highest	Date	Lowest	Date	No. of Days with Min. Temp.			
					>25	>30	>35	>40	>45							<10	<5	<0	<-5
Sallum	34.2	2	23.4	24	21	1	0	0	0	18.6	—	21.9	2,3,27	15.4	30	0	0	0	0
Mersa Matruh	29.6	2	22.6	22	23	0	0	0	0	15.8	—	21.7	10	13.5	23,24,31	0	0	0	0
Alexandria (A)	29.3	27	22.2	22	26	0	0	0	0	17.6	—	23.0	8	14.3	31	0	0	0	0
Port Said (A)	29.5	1	24.8	29	29	0	0	0	0	20.4	—	25.9	7	16.6	19	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	33.6	6	25.4	22	31	19	0	0	0	—	—	20.7	7	13.5	7	0	0	0	0
Cairo (A)	34.8	6	25.6	23,29	31	15	0	0	0	—	—	21.1	8	15.1	24,30	0	0	0	0
Fayoum	38.1	27	26.1	31	31	22	3	0	0	16.0	—	22.0	11	12.1	30	0	0	0	0
Minya	38.8	27	26.3	31	31	23	4	0	0	14.5	—	21.4	7	12.6	23	0	0	0	0
Assyout (A)	39.3	27	26.5	30	31	22	11	0	0	16.4	—	22.0	7	13.7	31	0	0	0	0
Luxor (A)	42.4	1	30.0	30	31	30	21	3	0	16.9	—	24.8	1	13.4	24	0	0	0	0
Aswan (A)	44.2	1	29.5	30	31	31	25	7	0	—	—	26.8	2	14.5	31	0	0	0	0
Siwa	36.3	2	25.0	24	30	20	6	0	0	14.5	—	23.2	4	10.9	23	0	0	0	0
Bahariya	37.9	27	26.6	30	31	23	3	0	0	16.6	—	22.3	27	12.0	22	0	0	0	0
Farafra	39.0	27	25.7	30	31	23	6	0	0	16.5	—	21.7	7	9.4	23,24	2	0	0	0
Dakhla	40.8	5	26.8	30	31	26	11	2	0	—	—	23.8	5	9.7	23	1	0	0	0
Kharga	39.9	28	28.3	30	31	29	13	0	0	18.7	—	26.1	1	12.4	23,31	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	33.4	28	27.5	30	31	18	0	0	0	—	—	26.4	1	16.8	19	0	0	0	0
Quseir	33.0	6	27.0	30	31	16	0	0	0	20.6	—	25.4	5	20.4	31	0	0	0	0

Table A 3.—SKY COVER AND RAINFALL

OCTOBER — 1969

STATION	Maen Sky Cover Oct.					Rainfall mms.										
	00 U.T.	06 U.T.	12 U.T.	18 U.T.	Daily Mean	Total Amount	D. From Normal	Max. Fall in one day		Number of Days with Amount of Rain						
								Amouut	Date	<0.1	≥0.1	≥1.0	≥5.0	≥10	≥25	≥50
Sallum	4.5	4.7	4.8	3.9	4.4	38.8	+21.7	18.6	8	0	12	6	2	1	0	0
Mersa Matruh (A)	3.0	4.5	4.8	2.8	3.8	89.8	+73.6	28.1	19	2	11	7	4	3	2	0
Alexandria . . (A)	3.8	4.3	5.1	3.4	4.1	24.3	+15.1	12.5	21	2	5	3	2	1	0	0
Port Said . . (A)	—	3.1	2.8	—	—	20.7	+13.7	12.5	19	0	4	3	2	1	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	0.6	1.7	3.2	0.7	1.8	1.0	— 3.4	0.4	19	1	3	0	0	0	0	0
Cairo . . . . (A)	1.5	2.5	3.4	1.8	2.4	14.4	+13.6	13.8	9	0	4	1	1	1	0	0
Fayoum	—	1.8	3.0	1.9	—	Tr.	—0.9	Tr.	6	1	0	0	0	0	0	0
Minya . . . . (A)	0.1	1.8	2.1	1.1	1.2	0.0	—0.6	0.0	—	0	0	0	0	0	0	0
Assyout. . . . (A)	0.7	1.1	1.5	0.8	0.9	Tr.	0.0	Tr.	4,5,19	3	0	0	0	0	0	0
Luxor . . . . (A)	1.0	1.2	1.5	1.6	1.3	Tr.	—0.1	Tr.	5,8	2	0	0	0	0	0	0
Aswan . . . . (A)	0.9	1.3	1.8	0.9	1.2	0.0	— Tr.	0.0	--	0	0	0	0	0	0	0
Siwa	2.6	2.0	4.6	1.8	2.5	0.9	+0.6	0.9	25	4	1	0	0	0	0	0
Bahariya	1.4	1.7	2.5	1.6	1.8	Tr.	—0.3	Tr.	5,18,25	3	0	0	0	0	0	0
Farafra	—	1.0	1.9	1.3	—	0.0	—1.0	0.0	—	0	0	0	0	0	0	0
Dakhla	1.6	0.7	0.6	0.6	0.9	Tr.	0.0	Tr.	5	1	0	0	0	0	0	0
Kharga.	0.7	1.1	1.1	0.7	0.9	0.0	— Tr.	0.0	—	0	0	0	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	1.3	1.4	2.6	2.2	1.9	3.2	+ 3.1	1.8	7	1	3	2	0	0	0	0
Quseir	1.4	2.3	2.1	2.1	1.9	15.8	+15.3	8.3	7	1	3	3	1	0	0	0

Table A 4.—DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA

OCTOBER — 1969

Station	Precipitation				Frost	Thunderstorm	Mist Vis ≥ 1000 metres	Fog Vis <1000 Metres	Haze Vis ≥1000 Metres	Thick Haze Vis <1000 Metres	Dust or Sandrising Vis ≥1000 Metres	Dust or Sandstorm Vis <1000 Metres	Gale	Clear Sky	Cloudy Sky
	Rain	Snow	Ice Pellets	Hail											
Sallulm	12	0	0	0	0	2	0	0	0	0	0	0	0	3	9
Mersa Matruh (A)	11	0	0	0	0	3	0	0	0	0	3	0	0	5	0
Alexandria (A)	5	0	0	0	0	2	2	4	0	0	1	0	0	2	0
Port Said (A)	4	0	0	0	0	0	0	0	0	0	0	0	0	8	2
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	3	0	0	0	0	0	0	1	0	0	0	0	0	18	0
Cairo (A)	4	0	0	1	0	2	7	0	4	0	2	0	0	14	0
Fayoum	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
Minya (A)	0	0	0	0	0	0	1	0	0	0	0	0	0	22	0
Assyout (A)	0	0	0	0	0	1	0	0	0	0	1	0	0	26	0
Luxor (A)	0	0	0	0	0	1	0	0	1	0	1	1	0	24	0
Aswan (A)	0	0	0	0	0	0	0	0	0	0	7	1	1	23	0
Siwa	1	0	0	0	0	1	0	0	0	0	2	0	0	12	0
Bahariya	0	0	0	0	0	0	0	0	0	0	2	0	0	16	0
Farafra	0	0	0	0	0	0	0	0	1	0	1	0	0	—	—
Dakhla	0	0	0	0	0	0	0	0	1	0	2	0	0	26	0
Kharga	0	0	0	0	0	0	0	0	0	0	2	0	0	26	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	3	0	0	0	0	3	0	0	0	0	3	0	0	19	1
Quseir	3	0	0	0	0	3	0	0	0	0	0	0	0	20	1

Table A 5.—NUMBER IN HOURS OF OCCURENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

OCTOBER — 1969

Station	calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												All direction
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	
Sallum	12	1	0	1—10	38	66	114	70	68	31	12	11	18	31	59	77	595
				11—27	3	6	30	21	6	0	0	1	4	9	40	16	136
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**41**	**72**	**144**	**91**	**74**	**31**	**12**	**12**	**22**	**40**	**99**	**93**	**731**
Mersa Matruh . (A)	14	0	0	1—10	83	67	37	41	49	32	36	49	40	34	42	10	520
				1—27	32	51	21	47	20	1	0	3	5	0	26	4	210
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**115**	**118**	**58**	**88**	**69**	**33**	**36**	**52**	**45**	**34**	**68**	**14**	**730**
Alexandria. . . (A)	0	0	0	1—10	47	60	37	38	34	45	46	14	7	38	71	178	615
				11—27	23	16	8	1	0	0	0	2	1	2	10	66	129
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**70**	**76**	**45**	**39**	**34**	**45**	**46**	**16**	**8**	**40**	**81**	**244**	**744**
Port Said . . . (A)	1	0	0	1—10	117	63	37	14	8	7	4	19	37	25	45	176	552
				11—27	38	41	32	4	2	3	0	8	12	16	10	25	191
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**155**	**104**	**69**	**18**	**10**	**10**	**4**	**27**	**49**	**41**	**55**	**201**	**743**
Tanta	125	0	0	1—10	112	59	21	3	2	7	33	22	52	65	91	133	601
				11—27	3	5	0	0	0	0	0	0	0	2	2	6	18
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**116**	**64**	**21**	**3**	**2**	**7**	**33**	**22**	**52**	**67**	**93**	**139**	**619**
Cairo . . . . . (A)	95	3	3	1—10	58	107	112	63	6	3	2	12	11	17	26	46	463
				11—27	29	61	37	19	6	2	1	3	8	5	2	7	180
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**87**	**168**	**149**	**82**	**12**	**5**	**3**	**15**	**19**	**22**	**28**	**53**	**643**
Fayoum	12	2	0	1—10	274	237	41	10	2	3	5	3	16	20	30	73	714
				11—27	0	8	0	0	0	0	1	2	5	0	0	0	16
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**274**	**245**	**41**	**10**	**2**	**3**	**6**	**5**	**21**	**20**	**30**	**73**	**730**
Minya . . . . . (A)	67	1	0	1—10	378	52	81	10	1	3	6	0	3	8	14	30	586
				11—27	67	1	11	0	0	0	2	1	2	4	1	1	90
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**445**	**53**	**92**	**10**	**1**	**3**	**8**	**1**	**5**	**12**	**15**	**31**	**676**

Table A 5 (*contd.*)—NUMBER IN HOURS OF OCCURENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

OCTOBER — 1969

Station	calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												All directions
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	
				1—10	15	12	11	10	14	2	4	8	143	201	134	5	559
				11—27	6	0	4	0	1	0	1	3	3	38	113	12	181
Asyout . . . . (A)	4	0	0	28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**21**	**12**	**15**	**10**	**15**	**2**	**5**	**11**	**146**	**239**	**247**	**17**	**740**
				1—10	39	24	14	15	28	80	112	36	53	92	197	19	709
				11—27	1	3	1	0	0	2	0	0	1	1	2	0	11
Luxor . . . . (A)	9	12	3	28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**40**	**27**	**15**	**15**	**28**	**82**	**112**	**36**	**54**	**93**	**199**	**19**	**720**
				1—10	391	103	19	4	3	8	8	3	6	15	9	72	641
				11—27	62	15	1	0	0	0	5	3	0	0	0	9	95
Aswan . . . . (A)	0	8	0	28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**453**	**118**	**20**	**4**	**3**	**8**	**13**	**6**	**6**	**15**	**9**	**81**	**736**
				1—10	26	67	67	93	107	54	21	17	21	42	86	72	673
				11—27	0	8	8	3	3	2	0	2	3	0	9	5	43
Siwa	26	2	0	28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**26**	**75**	**75**	**96**	**110**	**56**	**21**	**19**	**24**	**42**	**95**	**77**	**716**
				1—10	60	60	34	50	28	25	45	18	38	89	210	34	691
				11—27	7	11	0	0	2	0	0	0	1	0	11	4	36
Dakhla	3	3	11	28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**67**	**71**	**34**	**50**	**30**	**25**	**45**	**18**	**39**	**89**	**221**	**38**	**727**
				1—10	196	70	21	3	0	2	11	5	8	12	35	102	465
				11—27	148	65	6	0	0	0	1	3	1	0	0	31	255
Kharga	3	3	18	28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**344**	**135**	**27**	**3**	**0**	**2**	**12**	**8**	**9**	**12**	**35**	**133**	**720**
				1—10	34	15	5	9	18	6	2	4	7	13	80	34	227
				11—27	139	9	5	3	8	9	2	0	0	3	68	255	501
Hurghada	8	0	2	28—47	0	0	0	0	0	0	0	0	0	0	0	6	6
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**173**	**24**	**10**	**12**	**26**	**15**	**4**	**4**	**7**	**16**	**148**	**295**	**734**
				1—10	82	110	49	13	11	10	21	9	3	19	83	179	589
				11—27	98	25	0	0	0	0	2	1	0	0	0	22	148
Quseir	4	0	3	28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**180**	**135**	**49**	**13**	**11**	**10**	**23**	**10**	**3**	**19**	**83**	**201**	**737**

UPPER AIR CLIMATOLOGICAL DATA

Table B1.—MONTHLY MEANS, ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

OCTOBER — 1969

Station	Pressure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh 0000 U.T.	Surface	27	*1101m.b.	*1014m.b.	*1005m.b.	27	20.5	24.0	17.0	27	17.1
	1000	27	124	148	71	27	20.8	23.5	18.3	27	17.0
	850	27	1546	1554	1516	27	13.2	18.1	8.6	27	5.5
	700	26	3120	3174	3069	26	3.2	5.8	— 0.1	26	— 5.4
	600	26	4355	4407	4299	25	— 4.1	— 1.5	— 6.9	25	—16.9
	500	26	5769	5817	5707	26	—13.6	—11.1	—16.9	26	—28.1
	400	26	7430	7493	7356	26	—25.9	—22.5	—28.8	26	—36.9
	300	26	9453	9537	9354	26	—41.8	—37.2	—44.1	26	—51.4
	250	25	10664	10763	10552	25	—50.3	—44.9	—54.6	24	—59.1
	200	24	12095	12197	11946	24	—57.8	—53.0	—61.6	17	—65.4
	150	16	13894	13980	13731	16	—61.1	—57.2	—65.6	4	—66.9
	100	10	16390	16465	16226	10	—63.5	—59.5	—71.7	—	—
	70	7	18620	18700	18450	7	—62.4	—58.3	—65.4	—	—
	60	7	19574	19681	19368	7	—63.0	—60.2	—67.5	—	—
	50	5	20751	20822	20666	5	—59.5	—58.5	—61.0	—	—
	40	5	22161	22226	22066	5	—56.9	—56.0	—57.6	—	—
	30	1	23906	—	—	1	—53.6	—	—	—	—
	20	1	26520	—	—	1	—53.0	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 0000 U.T.	Surface	29	*997m.b.	*1001m.b.	*991m.b.	29	20.4	24.1	15.0	29	15.2
	1000	29	115	140	66	5	20.6	24.1	17.8	5	15.6
	850	29	1511	1567	1450	29	15.3	20.7	7.9	29	4.8
	700	29	3133	3204	3056	29	6.1	11.0	1.7	29	— 6.8
	600	29	4376	4448	4294	29	— 2.2	0.5	— 5.3	29	—13.8
	500	28	5799	5862	5694	28	—12.2	— 9.3	—14.9	28	—24.8
	400	27	7467	7533	7351	27	—24.3	—22.0	—26.6	27	—36.2
	300	27	9496	9592	9371	27	—40.4	—37.7	—42.5	27	—50.1
	250	26	10718	10828	10591	26	—49.4	—45.2	—53.2	24	—58.3
	200	25	12160	12288	12041	25	—56.8	—50.7	—60.4	22	—64.8
	150	24	13965	14088	13887	24	—61.9	—58.4	—65.8	4	—67.3
	100	18	16449	16546	16332	18	—64.6	—59.8	—68.7	—	—
	70	16	18636	18712	18482	16	—63.9	—60.5	—67.6	—	—
	60	13	19627	19740	19460	13	—62.6	—59.1	—65.1	—	—
	50	11	20729	20784	20641	11	—60.9	—56.0	—67.3	—	—
	40	9	22143	22300	21740	9	—58.7	—57.3	—63.3	—	—
	30	8	23954	24023	23880	8	—55.0	—51.5	—61.9	—	—
	20	3	26540	26613	26442	3	—50.3	—45.8	—58.3	—	—
	10	1	30867	—	—	1	—53.3	—	—	—	—
Aswan 0000 U.T.	Surface	29	*987m.b.	*990m.b.	*983m.b.	29	24.5	30.5	17.8	29	8.3
	1000	29	83	106	43	—	—	—	—	—	—
	850	29	1503	1534	1472	29	21.9	29.4	15.8	29	1.4
	700	29	3151	3200	3097	29	9.2	13.1	6.8	29	— 8.2
	600	29	4408	4470	4347	29	0.4	3.0	— 3.1	29	—15.8
	500	28	5846	5923	5784	28	— 8.6	— 6.7	—12.0	28	—25.6
	400	28	7537	7625	7476	28	—20.9	—18.7	—24.1	28	—36.3
	300	28	9598	9698	9527	28	—36.7	—34.3	—39.9	28	—49.1
	250	27	10835	10949	10764	27	—46.1	—41.8	—50.0	27	—57.3
	200	26	12294	12409	12221	26	—54.9	—49.7	—59.8	26	—64.8
	150	23	14091	14237	14012	23	—64.1	—60.4	—67.6	—	—
	100	22	16524	16696	16395	22	—70.0	—63.0	—75.2	—	—
	70	18	18663	18790	18580	18	—66.1	—63.1	—74.0	—	—
	60	14	19595	19682	19519	14	—63.8	—59.2	—67.4	—	—
	50	13	20723	20824	20655	13	—60.7	—54.6	—62.9	—	—
	40	11	22120	22234	22066	11	—57.5	—54.5	—61.0	—	—
	30	9	23957	24082	23900	9	—51.7	—45.0	—53.8	—	—
	20	5	26606	26730	26560	5	—48.2	—44.8	—50.5	—	—
	10	—	—	—	—	—	—	—	—	—	—

* The atmospheric pressure corrected to the elevation of the radiosonde station.

N = The number of cases the element has been observed during the month.

UPPER AIR CLIMATOLOGICAL DATA

Table B1 (*contd*).—**MONTHLY MEANS, ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES**

OCTOBER — 1969

Station	Pressure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh 1200 U.T.	Surface	29	1011*m.b.	1014*m.b.	1003*m.b.	29	24.8	28.4	21.4	29	17.3
	1000	29	121	156	54	29	23.7	27.7	19.5	29	16.1
	850	29	1515	1563	1447	29	13.4	18.3	6.8	29	4.0
	700	29	3121	3194	3046	29	3.6	8.2	— 0.4	29	— 7.6
	600	29	4353	4432	4254	29	— 3.7	1.0	— 7.5	29	—16.1
	500	29	5807	58.2	5680	29	—13.0	— 8.7	—15.6	29	—26.3
	400	28	7439	7546	7333	28	—25.2	—22.6	—28.3	28	—36.4
	300	28	9461	9583	9338	28	—41.4	—38.1	—44.0	28	—51.4
	250	28	10675	10812	10545	28	—50.3	—47.1	— 53.2	25	—59.1
	200	28	12108	12282	11980	28	—57.1	—52.9	—61.4	19	—65.5
	150	19	13927	14066	13833	19	—61.0	—55.8	—68.5	4	—66.0
	100	14	16443	16613	16306	14	—62.6	—58.0	—69.7	—	—
	70	9	18668	18810	18500	9	—61.5	—58.0	—64.6	—	—
	60	6	19627	19783	19453	6	—59.2	—56.8	—65.5	—	—
	50	3	20861	20937	20784	3	—56.7	—55.1	—57.7	—	—
	40	1	22219	—	—	1	—50.9	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 1200 U.T.	Surface	31	996*m.b.	1000*m.b.	992*m.b	31	28.9	35.4	25.1	31	12.1
	1000	31	103	140	20	2	28.6	29.0	28.2	2	13.6
	850	31	1515	1567	1454	31	16.5	22.0	10.4	31	2.9
	700	31	3141	3212	3060	30	7.0	12.8	1.2	30	— 9.5
	600	31	4389	4467	4295	31	— 1.6	2.0	— 7.7	31	—18.4
	500	30	5817	5906	5719	30	—10.9	— 7.8	—16.8	30	—28.7
	400	30	7493	7586	7369	30	—23.2	—18.3	—29.1	30	—38.1
	300	29	9528	9636	9367	29	—39.9	—36.1	—44.0	29	—53.3
	250	29	10750	10858	10574	29	—48.5	—45.5	—51.4	29	—60.4
	200	29	12195	12325	12006	29	—55.3	—51.0	—58.7	28	—66.3
	150	27	14013	14172	13817	27	—61.1	—56.2	—65 9	7	—68.7
	100	19	16503	16693	16319	19	—64.6	—60.3	—68.0	—	—
	70	17	18704	18891	18502	17	—61.2	—58.6	—65.6	—	—
	60	13	19677	19900	19470	13	—60.2	—57.8	—63.0	—	—
	50	13	20788	20999	20592	13	—58.7	—56.0	—64.4	—	—
	40	10	22329	22580	22110	10	—54.5	—52 3	—56.9	—	—
	30	10	24090	24278	23857	10	—50.6	—47.5	—55.0	—	—
	20	8	26752	26944	26507	8	—46.0	—41.9	—50.9	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan (A) 1200 U.T.	Surface	29	936mb.	989mb.	981mb.	29	35.3	42 0	28.5	29	8.4
	1000	29	69	94	20	—	—	—	—	—	—
	850	29	1510	1540	1479	29	22.7	30.0	14.0	29	— 0.5
	700	29	3161	3196	3125	29	10.3	13.3	8.2	29	—10.2
	600	27	4420	4462	4384	27	1.3	3.6	— 0.4	27	—17.4
	500	27	5863	5908	5822	27	— 7.9	— 4.8	— 9.7	27	—27.5
	400	27	7560	7610	7514	27	—19.9	—16.4	—22.8	27	—37.9
	300	26	9625	9703	9570	26	—35.6	—32.1	—40.4	26	—50.9
	250	25	10887	10940	10799	25	—44.8	—40.7	—48.4	25	—58.5
	200	25	12329	12420	12226	25	—54.1	—52.0	—58.4	25	—66.0
	150	24	14135	14234	14059	24	—63.5	—53.7	—69.2	2	—69.4
	100	24	16585	16773	16459	24	—70.1	—64.3	—75.1	—	—
	70	20	18737	18880	18610	20	—65.1	—60.1	—68.7	—	—
	60	11	19651	19773	19571	11	—60.4	—49.8	—66.9	—	—
	50	10	20793	20926	20690	10	—59.1	—55.5	—72.3	—	—
	40	4	22170	22213	22131	4	—55.0	—52.8	—57.0	—	—
	30	2	24026	24047	24009	2	—50.8	—48.5	—53.0	—	—
	20	2	26718	26767	26668	2	—42.8	—40.0	—45.5	—	—
	10	—	—	—	—	—	—	—	—	—	—

* The atmospheric pressure corrected to the elevation of the radiosonde station.

N — The number of cases the element has been observed during the month.

Table B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE. THE HIGHEST WIND SPEED IN THE UPPER AIR

OCTOBER — 1969

	Station	Freezing Level									Frist Tropopause									Highest wind speed			
		Mean			Highest			Lowest			Mean			Highest			Lowest						
		Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Direction (000—360)	Speed in Knots
0000 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	M. Matruh (A)	3590 (25)	661 (25)	—9.1 (24)	4000	627	— 8.9	3050	702	— 0.4	12284 (16)	196 (16)	—59.9 (16)	16278	100	—71.7	11089	231	—54.0	14105	—	290	125
	Helwan . . .	4035 (29)	627 (29)	—11.3 (29)	4610	585	—18.2	3500	665	—24.3	13883 (19)	157 (19)	—63.2 (19)	16000	106	—67.0	11300	228	—56.5	12140	198	290	162
	Aswan . . (A)	4431 (28)	598 (28)	—16.6 (28)	4880	564	—28.0	3830	645	— 9.5	15130 (20)	128 (20)	—69.5 (20)	16543	100	—74.4	12540	192	—61.5	11410	225	300	110
1200 U.T.											(N)	(N)	(N)										
	M. Matruh (A)	3728 (29)	650 (29)	—11.0 (28)	4630	584	—29.0	3064	700	—11.0	12433 (17)	188 (17)	—59.2 (17)	15230	122	—68.1	11000	237	—52.8	12480	—	255	112
	Helwan . . .	4131 (31)	619 (31)	—15.4 (31)	4700	584	—20.2	3120	694	— 1.7	13867 (21)	157 (21)	—62.1 (21)	16810	98	—65.1	11460	226	—54.6	14990	126	290	150
	Aswan . . (A)	4601 (27)	588 (27)	—18.4 (27)	4920	565	—24.3	4150	618	—11.2	15508 (21)	121 (21)	—68.7 (21)	16773	100	—73.3	12620	189	—57.8	13115	176	286	134

N = The number of cases the element has been observed during the month.

Table B 3. —NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

MERSA MATRUH (A) — OCTOBER 1969

Time	Pressure Surface (Millibar)	Wind between specified ranges of direction (000—360°)																						Number of Calm winds	Total Number of Observations (T N)	Mean Scalar Wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	4	10	2	9	2	8	3	6	2	8	3	7	2	6	3	5	3	8	1	7	0	—	0	—	2	27	7
	1000	3	14	3	10	4	11	3	10	4	14	4	6	0	—	0	—	0	—	1	9	1	13	4	10	0	27	11
	850	2	8	3	8	1	4	1	12	1	4	0	—	1	20	2	19	1	19	4	12	6	15	4	16	0	26	13
	700	1	12	1	5	0	—	0	—	0	—	0	—	1	14	1	6	5	20	0	—	11	16	3	14	0	23	16
	600	0	—	0	—	0	—	0	—	0	—	0	—	1	6	2	20	5	24	5	28	10	25	1	26	0	24	24
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	11	10	25	6	27	7	33	0	—	0	24	27
	400	0	—	0	—	0	—	0	—	0	—	0	—	1	6	3	25	6	33	8	38	7	45	0	—	0	25	36
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	33	6	52	5	45	8	54	0	—	0	24	47
	250	0	—	0	—	0	—	0	—	0	—	0	—	1	21	2	40	7	48	7	51	6	80	0	—	0	23	55
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	24	10	48	7	44	4	100	0	—	0	22	55
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	9	42	4	37	2	76	0	—	0	15	49
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	33	1	53	1	58	0	—	0	8	39
	70	0	—	0	—	0	—	0	—	0	—	1	17	2	19	0	—	1	60	1	50	1	28	0	—	0	6	32
	60	0	—	0	—	0	—	0	—	0	—	0	—	2	12	0	—	1	12	2	16	0	—	0	—	0	5	14
	50	0	—	0	—	0	—	0	—	1	14	1	11	1	15	1	12	0	—	1	56	0	—	0	—	0	5	22
	40	0	—	0	—	0	—	1	13	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	13
	30	1	10	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	10
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	9	9	7	10	3	15	3	14	0	—	1	5	0	—	1	8	0	—	0	0	1	15	4	11	0	29	11
	1000	7	11	10	12	0	—	4	18	1	7	0	—	0	—	1	14	0	—	0	0	2	12	4	13	0	29	12
	850	2	6	1	10	0	—	0	—	1	12	0	—	1	33	2	19	3	7	7	13	8	12	4	9	0	29	12
	700	1	14	0	—	0	—	0	—	0	—	0	—	1	17	1	25	5	77	7	18	8	19	5	15	0	28	19
	600	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	20	4	32	10	22	7	26	4	18	0	28	23
	500	1	26	0	—	0	—	0	—	0	—	0	—	0	—	2	22	5	23	16	31	4	32	0	—	0	28	29
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	23	9	36	12	34	5	38	0	—	0	27	36
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	44	7	46	12	42	6	58	0	—	0	26	47
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	8	45	11	52	6	63	1	67	0	26	53
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	44	12	59	6	56	1	77	0	26	55
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	38	5	41	5	57	0	—	0	16	45
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	28	3	18	4	52	2	37	0	—	0	11	35
	70	0	—	0	—	0	—	0	—	0	—	0	—	1	12	0	—	1	18	1	7	1	22	0	—	0	4	15
	60	0	—	0	—	0	—	0	—	1	8	0	—	0	—	1	13	1	7	0	—	0	—	0	—	0	3	9
	50	0	—	0	—	1	4	0	—	0	—	0	—	1	10	0	—	0	—	0	—	0	—	0	—	0	2	7
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the elemnt has been observed during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

Table B 3. *(contd.)*—**NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.**

HELWAN — OCTOBER 1969

Time	Pressure Surface (Millibar)	Wind between ranges of direction (000—360)°																						Number of Calm winds	Total Number of observation (TN)	Mean Scalar wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	5	8	5	8	11	11	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	5	7	8	0	29	9
	1000	0	—	1	11	4	8	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	5	9
	850	5	12	2	13	0	—	2	12	0	—	0	—	2	12	1	11	4	15	3	18	3	11	7	13	0	29	13
	700	0	—	0	—	0	—	0	—	0	—	0	—	5	34	6	27	5	26	8	23	2	20	3	19	0	29	26
	600	0	—	0	—	0	—	0	—	0	—	0	—	6	32	6	28	5	28	8	31	1	20	2	18	0	28	29
	500	0	—	0	—	0	—	0	—	0	—	0	—	2	40	8	29	10	40	6	43	2	46	0	—	0	28	36
	400	0	—	0	—	0	—	0	—	0	—	0	—	1	40	9	38	9	46	5	60	2	54	0	—	0	26	46
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	53	9	62	6	73	2	99	0	—	0	24	65
	250	0	—	0	—	0	—	0	—	0	—	0	—	1	61	5	68	11	65	1	87	1	93	0	—	0	19	68
	200	0	—	0	—	0	—	0	—	0	—	0	—	1	54	5	62	9	71	1	73	1	159	0	—	0	17	73
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	75	5	87	2	102	0	—	0	—	0	8	90
	100	0	—	0	—	—	—	0	—	0	—	0	—	0	—	0	—	1	38	0	—	0	—	0	—	—	1	38
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	11	10	5	13	1	10	1	10	0	—	0	—	0	—	3	9	2	11	0	—	5	9	3	12	0	31	11
	1000	2	13	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	13
	850	5	18	1	16	5	12	0	—	0	—	2	16	2	23	2	21	3	15	2	8	2	11	7	13	0	31	15
	700	0	—	0	—	0	—	0	—	1	8	0	—	8	27	5	28	5	25	8	20	4	22	0	—	0	31	24
	600	0	—	1	2	0	—	0	—	0	—	0	—	6	34	6	36	7	31	8	39	2	36	0	—	0	30	31
	500	1	34	0	—	0	—	0	—	0	—	0	—	3	49	9	29	8	41	6	40	2	26	0	—	0	29	36
	400	0	—	0	—	0	—	0	—	0	—	0	—	1	60	10	43	8	51	8	45	2	40	0	—	0	29	46
	300	0	—	0	—	0	—	0	—	0	—	0	—	1	63	6	45	11	53	7	77	1	50	0	—	0	26	58
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	54	9	67	7	81	0	—	0	—	0	23	65
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	65	9	79	3	91	0	—	0	—	0	19	75
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	66	4	87	1	120	0	—	0	—	0	10	80
	100	0	—	0	—	0	—	0	—	0	—	1	27	0	—	1	30	1	58	0	—	0	—	0	—	0	3	38
	70	0	—	0	—	0	—	0	—	0	—	1	20	0	—	0	—	0	—	0	—	0	—	0	—	0	1	20
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	8	0	—	0	—	0	—	0	1	8
	50	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	8	0	—	0	—	0	—	0	—	0	1	8
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

Table B 3 (*contd.*).—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

ASWAN (A) — OCTOBER 1969

Time	Pressure Surface (Millibar)	Wind between ranges of direction (000—360)°																								Number of Calm winds	Total Number of observation (TN)	Mean Scalar wind Speed (Knots)
		345/014		015/044		045/074		075/104		105/134		135/164		165/194		195/224		225/254		255/284		285/314		315/344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	17	17	5	6	0	—	0	—	1	6	0	—	0	—	0	—	0	—	1	8	0	—	4	4	1	29	8
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	3	15	5	9	3	6	3	12	6	10	0	—	1	3	0	—	1	10	3	6	0	—	3	10	0	28	10
	700	0	—	1	14	1	16	1	8	1	27	1	10	2	12	5	12	4	10	5	17	2	14	5	16	0	28	14
	600	0	—	0	—	0	—	1	12	1	20	0	—	3	16	6	16	5	19	4	18	7	20	1	11	0	28	18
	500	0	—	0	—	0	—	0	—	0	—	1	15	2	14	2	16	12	19	6	22	3	36	1	6	0	27	20
	400	0	—	0	—	0	—	0	—	0	—	0	—	2	11	2	28	13	25	6	31	4	50	0	—	0	27	29
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	35	13	36	7	44	2	63	0	—	0	26	40
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	53	15	44	6	45	2	87	0	—	0	25	49
	200	0	—	0	—	0	—	0	—	0	—	0	—	1	2	0	—	13	56	7	55	2	92	0	—	0	23	56
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	13	53	6	57	2	96	0	—	0	21	58
	100	0	—	0	—	0	—	0	—	0	—	0	—	3	17	0	—	9	31	6	32	0	—	0	—	0	18	29
	70	0	—	0	—	0	—	1	24	3	12	1	5	2	12	1	22	4	14	1	12	1	11	0	—	0	14	14
	60	0	—	1	4	2	22	1	20	1	24	0	—	2	12	0	—	2	10	1	10	0	—	0	—	0	10	15
	50	1	11	0	—	0	—	1	8	1	11	1	13	1	15	1	8	1	11	0	—	2	16	0	—	0	9	12
	40	1	10	0	—	1	7	2	6	0	—	0	—	2	8	0	—	1	10	1	12	0	—	0	—	0	8	8
	30	0	—	0	—	2	12	2	12	0	—	0	—	0	—	0	—	1	14	0	—	0	—	0	—	0	5	12
	20	0	—	0	—	0	—	2	32	0	—	0	—	0	—	1	7	0	—	0	—	0	—	0	—	0	3	23
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	12	8	2	5	1	4	0	—	0	—	1	6	1	6	1	15	2	4	1	2	2	6	6	5	0	29	6
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	2	16	1	26	3	9	3	6	1	3	2	8	3	7	2	8	1	13	3	9	4	8	4	10	0	29	9
	700	2	18	1	11	0	—	0	—	0	—	4	7	2	15	8	10	4	17	2	20	3	12	3	20	0	29	13
	600	2	18	0	—	0	0	0	—	1	8	0	—	4	13	3	15	4	15	4	24	8	18	1	12	0	27	17
	500	0	—	0	—	0	—	0	—	0	—	0	—	2	19	5	15	10	22	7	26	3	22	0	—	0	27	21
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	28	11	27	10	34	2	43	0	—	0	27	31
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	15	40	8	47	3	66	0	—	0	26	45
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	14	47	6	53	4	68	0	—	0	24	52
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	57	8	55	12	51	3	93	0	—	0	24	58
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	55	9	43	9	59	2	80	0	—	0	22	54
	100	0	—	0	—	0	—	0	—	1	11	1	43	2	38	9	33	5	32	3	48	0	—	0	—	0	21	35
	70	0	—	0	—	1	8	2	18	1	18	0	—	3	12	1	14	1	12	3	30	2	21	0	—	0	14	18
	60	0	—	0	—	1	12	1	11	3	10	2	12	0	—	0	—	2	9	0	—	1	31	0	—	0	10	13
	50	0	—	1	—	0	—	3	16	1	16	0	—	0	—	1	6	0	—	1	11	1	8	0	—	0	7	13
	40	0	—	0	—	0	—	1	7	0	—	0	—	0	—	0	—	1	9	0	—	0	—	0	—	0	2	8
	30	0	—	0	—	0	—	1	14	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	14
	20	0	—	0	—	0	—	0	—	0	—	1	10	0	—	0	—	0	—	0	—	0	—	0	—	0	1	10
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

REVIEW OF AGRO-METEOROLOGICAL STATIONS

MERSA MATRUH — OCTOBER 1969

This month as a whole was slightly cooler than normal and appreciably more rainy. The total monthly rainfall was 89.8 mm. against 16.2 mm. for normal. The maximum daily rainfall was 28.1 mm. reported on the 19th. The daily maximum air temperatures were below normal during the periods (7th-12th), (19th - 24th) and (28th - 30th) and slightly above normal otherwise. The highest maximum air temperature for the month was 29.6°C reported on the 2nd, and the lowest was 22.6°C reported on the 22nd.

The daily mean actual duration of bright sunshine was 0.7 hour less than the correspinding value of El Kasr in October 1968.

TAHRIR — OCTOBER 1969

This month as a whole was slightly warmer than last October. The prevailing weather during the month was mild in general. Three light heat waves occurred on the 6th and during the periods (18th - 19th) and (26th - 23th). The first heat wave yielded the highest maximum air temperature for the month (34.4°C). The second heat wave yielded the lowest value of relative humidity (29, %) on the 19th.

The extreme maximum soil temperatures were higher than the corresponding values of last October at all depths apart from the 5 cm. depth where it was slightly lower (0.7°C) ; the differences varied between 1.6°C at 50 cm. and 0.6°C at 100 cm. The extreme minimum soil temperatures were lower than last October at shallow depths between 2,10 cm. with small differences not exceeding 0.2°C. At deeper depths between 20,100 cm. the extreme soil minima were higher than last October and the differences varied between 0.3°, 0.6°C.

The daily mean Pan evaporation was 0.16 mm. less than the corresponding value of October 1968. The daily mean actual duration of bright sunshine was 0.9 hour less than October 1968.

BAHTIM — OCTOBER 1969

This month as a whole was warmer than last October. The prevailing weather during the month was mild in general. Three heat waves were experienced during the periods (6th - 7th), (18th - 19th) and (26th - 28th). The first heat wave yielded the highest maximum air temperatue for the month (34.9°C) on the 6th. The second heat wave yielded the lowest value of relative humidity (23 %) on the 19th.

The extreme maximum soil temperatures were lower than the corresponding values of last October at 2,5 cm. depths with differences 1.1°, 1.0°C respectively. At deeper depths between 10,100cm. the extreme soil maxima were higher than last October and the differences varied between 2.1°C at 20 cm. and 0.6°C at 100 cm. The extreme minimum soil temperatures were slightly lower (0.2°C) than the corresponding values of last October at depths between 2,10 cm. At deeper depths between 20,100 cm. the extreme soil minima were higher than last October and the differences varied between 0.1°C at 20 cm. and 0.9°C at 50cm.

The daily mean Pan evaporation was 0.59 mm. more than the corresponding value of October 1968. The mean daily actual duration of bright sunshine was 0.7 hour less than October 1968

KHARGA — OCTOBER 1969

This month as a whole was warmer than normal. The daily maximum air temperatures were above normal most of the month. The month was characterized by three pronounced heat waves during the periods (1 st - 7th), (18th - 19th) and 26th - 28th). The last heat wave yielded the highest maximum air temperature for the month (39.9°C) and the lowest value of relative humidity (11 o/°) on the 28th.

The extreme maximum soil temperatures were higher than the corresponding values of last October at all depths between 2,100cm. and the differences varied between 6.5°C at 2 cm. and 1.0°C at 100 cm. The extreme minimum soil temperatures were higher than the corresponding values of last October at all depths apart from the 5 cm. depth where it was slightly lower (0.5°C); the differences varied between 0.8°C at both, 2,10 cm. and 2.2°C at 50 cm.

The daily mean Pan evaporation was 1.92 mm. more than the correspondinn value of October 1968. The daily mean actual duration of bright sunshine was 0.6 hogr less than October 1968.

Table C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

OCTOBER — 1969

STATION	Air Temperature (°C)					Mean Duration in hours of daily air temperature above the following value										
	Mean Max.	Mean Min.	Mean of the day	Night time mean	Day time mean	—5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C
Mersa Matruh. . .	26.0	17.9	21.7	20.1	23.4	24.0	24.0	24.0	24.0	23.5	17.2	3.1	0.0	0.0	0.0	0.0
Tahrir	30.1	16.6	22.4	19.2	25.7	24.0	24.0	24.0	24.0	23.1	15.7	7.1	0.9	0.0	0.0	0.0
Bahtim	30.3	15.7	22.5	19.0	26.1	24.0	24.0	24.0	24.0	22.8	15.7	7.8	1.8	0.0	0.0	0.0
Kharga	34.7	20.4	27.6	24.8	30.6	24,0	24.0	24.0	24.0	23.7	22.5	16.3	7.0	2.0	0.0	0.0

Table C 2.—EXTREME VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUD OVER DIFFERENT FIELDS.

OCTOBER — 1969

STATION	Max. Temp. at 1½ metres				Min. Temp. at 1½ metres (°C)				Min. Temp. at 5 cms. above			
	Highest		Lowest		Highest		Lowest		Dry soil		Grass	
	value	Date	value	Date	value	Date	value	Date	Value	Date	Value	Date
Mersa Matruh. . .	29.6	2	22.6	22	21.7	10	13.5	23,24,31	11.0	31	—	—
Tahrir	34.4	6	26.2	21	20.9	7	12.5	31	10.4	31	—	—
Bahtim	34.9	6	26.3	31	20.2	7	10.5	31	8.5	30,31	—	—
Kharga	39.9	28	28.3	30	26.1	1	12.4	23,31	10.2	31	—	—

Table C 3.—(SOLAR + SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, & VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL.

OCTOBER — 1969

STATION	(Solar+Sky Radiation gm. cal/cm²	Duration of Bright Sunshine (hours)			Relative Humidity %				Vapour pressure (mms)						Evaporation (mms)		Rainfall (mms)		
		Total Actual monthly	Total Possible monthly	%	Mean of day	1200 U.T.	Lowest	Date	Mean of day	1200 U.T.	Highest	Date	Lowest	Date	Piche	Pan class A	Total Amount Monthly	Max. Fall in one day	Date
M. Matruh	318.0	249.8	353.6	71	74	61	33	31	14.2	14.2	18.7	3	7.2	31	6.2	5.80	89.8	28.1	19
Tahrir . .	429.2	284.0	354.6	81	73	47	29	19	14.6	13.6	19.6	6	9.7	31	6.0	6.02	2.7	2.4	18
Bahtim . .	452.0	283.6	354.8	80	67	40	23	19	13.2	12.1	18.7	11	7.6	19	8.0	7.14	1.1	0.8	9
Kharga .	414.1	*284.5	358.6	88	33	22	11	28	8.7	8.4	15.4	8	4.4	25	19.1	14.88	0	0	—

* Total for 28 days

Table C 4.—EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS (cms) IN DIFFERENT FIELDS

OCTOBER — 1969

Station	Highest (H) Lowest (L)	Extreme soil temperature (°C) in dry field at different depths (cms.)								Extreme soil temperature (°C) in grass field at different depths (cms.)							
		2	5	10	20	50	100	200	300	2	5	10	20	50	100	200	30
Mersa Matruh.	H	39.9	35.4	31.2	28.8	27.4	26.7	25.7	—	—	—	—	—	—	—	—	—
	L	14.5	14.8	16.1	17.4	20.9	21.5	24.2	—	—	—	—	—	—	—	—	—
Tahrir	H	45.5	40.3	35.6	32.2	30.1	29.7	28.9	28.3	—	—	—	—	—	—	—	—
	L	18.1	18.0	19.4	22.9	25.2	26.6	27.3	27.6	—	—	—	—	—	—	—	—
Bahtim	H	44.5	38.9	34.3	32.3	30.7	30.2	28.1	26.7	—	—	—	—	—	—	—	—
	L	19.5	19.4	22.4	25.7	27.6	28.2	27.7	26.4	—	—	—	—	—	—	—	—
Kharga . . .	H	49.6	43.5	38.2	35.0	34.6	33.3	31.5	30.5	—	—	—	—	—	—	—	—
	L	15.7	18.2	23.1	27.4	30.4	31.4	31.2	30.1	—	—	—	—	—	—	—	—

Table C 5.—SURFACE WIND

OCTOBER — 1969

Station	Wind Speed m/sec at $1^1/_2$ metres			Days with surface wind speed at 10 metres							Max. Gust (knots at 10 meters)	
	Mean of the day	Night time mean	Day time mean	≥10 knots	≥15 knots	≥20 knots	≥25 knots	30 knots	≥35 knots	≥40 knots	value (knots)	Date
Mersa Matruh.	3.6	2.8	4.5	30	23	10	3	1	0	0	39	18
Tahrir	2.0	1.3	2.7	29	13	3	0	0	0	0	33	18,19,2
Bahtim	2.3	1.2	3.4	30	13	1	1	0	0	0	29	19
Kharga	3.8	3.1	4.5	31	22	9	3	0	0	0	33	2

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THE ARAB REPUBLIC OF EGYPT

MONTHLY WEATHER REPORT

VOLUME 12 NUMBER 11

NOVEMBER, 1969

U.D.C. 551. 506.1 (62)

THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

PUBLICATIONS OF THE METEOROLOGICAL AUTHORITY OF THE ARAB REPUBLIC OF EGYPT—CAIRO

In fulfilment of its duties, the Egyptian Meteorological Authority issues serveral reports and publications on weather, climate and agro-meteorology. The principal publications are described on this page.

Orders for publications should be addressed to :

"Chairman of the Board of Directors, Meteorological Authority, Kubri-el-Qubbeh — CAIRO".

THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Authority since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968 this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

As from 1st January 1972, the Daily Weather Report will not be issued or distributed because it does not serve no longer any good purpose as it used to be in the past. The Meteorological Authority is ready to supply the recipients of the Report with any information used to be included in it, if they so desire.

THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for Egypt.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of Egypt as well as monthly values of certain elements.

THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in March 1968 which brings normals and mean values up till 1960.

METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff of "The Meteorological Institute for Research and Training" and the Operational Divisions of the Meteorological Authority.

TECHNICAL NOTES

As from October 1970, the Meteorological Authority started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

CONTENTS

Note : For explanatory notes on the tables please refer to Volume 12, Number 1 (January 1969).

GENERAL SUMMARY OF WEATHER CONDITIONS

NOVEMBER 1969

Generally stable and slightly changeable. Light and subnormal rainfall in the north.

GENERAL DESCRIPTION OF WEATHER

The prevailing weather during this month was generally mild in the northern and middle parts, and warm in the southern parts.

Weather was almost fine with the exception of few days of light rain over scattered localities in the northern districts. Rain was locally heavy over Mersa Matruh on the 1st and Alexandria on the 8th.

Early morning mist and fog developed during several days over scattered parts in Delta, Cairo and north of Upper Egypt districts.

PRESSURE DISTRIBUTION

The most outstanding pressure systems over the surface maps during this month were :

— The Atlantic anticyclone and its extension through the Mediterranean Sea.

— The Siberian anticyclone and its extension through East Mediterranean.

— Deep low pressure systems moving through North Europe, associated sometimes with secondaries over the Mediterranean Sea.

— The Sudan low pressure trough.

During this month, three Mediterranean secondaries were distinguished. The first secondary appeared over East Mediterranean on the 1st and traversed the area on the 2nd while filling. The second secondary depression appeared over West Mediterranean on the 25th. It proceeded eastwards and traversed Asia Minor on the 28th. A low pressure system developed over West Mediterranean on the 29th and proceeded slowly eastwards the next day.

The barometric pressure over Egypt was affected most days of the month by the southeast extension of the Atlantic anticyclone or the southwest extension of the Siberian anticyclone. It was accordingly above normal in general, though it experienced six oscallations and reached consecutive minima round the 1st, 7th, 14th, 16th, 21th and 28th respectively. The first and last pressure minima associated the transit of the secondary depressions through East Mediterranean on the 1st and 28th. The other four pressure minima accompanied the northward elongation of the Sudan low pressure trough.

The important pressure systems over the upper air charts during this month were :

— Deep upper low pressure systems over North Atlantic and North Eurasia.

— Secondary upper troughs or closed lows through the middle latitudes, traversing East Mediterranean on the 2nd, 8th, 13th, 18th, 22nd and 29th.

— Upper high pressure belt over the subtropical latitudes.

SURFACE WIND

Light to moderate N/NW winds prevailed over the Republic most days of this month. Winds became fresh to strong during several days over few scattered localities mainly in the Red Sea and Western Desert districts.

TEMPERATURE

Maximum air temperature showed small variability during this month in general. It was above normal during the fourth week and mostly below normal the rest of the month. Maximum air temperature values ranged generally between 22° & 27°C in the northern and middle parts, and between 29° & 32°C in the southern parts.

The absolute maximum air temperature was 33.4°C reported at Kom Ombo on the 1st. & 15th.

Minimum air temperature fluctuations were rather similar to the maximum air temperature fluctuations, though it continued above normal most days of the month.

Minimum air temperature values ranged generally between 13° & 18°C in the northern and southern parts, and between 10° & 15°C in the middle parts.

The absolute minimum air temperature was 6.0° C reported at Farafra on the 27th.

PRECIPITATION

Light rain fell over the Mediterranean district during the period from the 1st to the 8th. and on the 28th. It extended sometimes to few land localities. Rain was locally heavy over Mersa Matruh on the 1st and over Alexandria on the 8th. The monthly rainfall was below normal over all districts.

The highest daily rainfall was 15.2 mm. reported at Alexandira on the 8th.

The highest monthly rainfall was 22.5 mm reported at Ras El Teen (Alexandria area).

Chairman (M. F. TAHA)

Board of Directors

Cairo, March 1972

SURFACE DATA

Table A 1. — MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION.

NOVEMBER — 1969

STATION	Atmospheric Pressure (mbs) M.S.L		Air Temperature °C									Relative Humidity %		Bright Sunshine Duration (Hours)			Piche Evaporation mms. Mean
			Maximum		Minimum		$\frac{A+B}{2}$	Dry Bulb		Wet Bulb							
	Mean	D.F Normal or Average	(A) Mean	D.F Normal or Average	(B) Mean	D.F Normal or Average		Mean	D.F Normal or Average	Mean	D.F Normal or Average	Mean	D.F Normal or Average	Total Actual	Total Possible	%	
Sallum	1016.7	— 1.1	23.7	— 0.9	15.5	+ 0.6	19.6	19.2	— 0.6	15.1	— 0.2	62	+ 2	—	—	—	6.0
Mersa Matruh (A)	1019.6	+ 1.8	22.8	— 0.6	14.2	+ 0.8	18.5	18.3	+ 0.1	15.4	+ 0.7	72	+ 5	243.6	316.9	77	5.6
Alexandria (A)	1018.9	+ 1.7	23.6	— 0.9	15.1	+ 0.4	19.4	19.3	0.0	16.0	— 0.1	69	0	257.4	318.0	81	5.0
Port Said (A)	1017.7	+ 1.2	24.3	+ 0.3	18.9	+ 0.4	21.6	21.0	+ 0.1	17.5	— 0.1	69	— 2	250.5	318.0	79	7.5
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1018.5	— 1.5	25.3	— 0.5	12.9	— 0.5	19.1	18.2	— 0.2	15.0	— 0.2	69	— 1	—	—	—	—
Cairo (A)	1018.0	+ 0.9	24.9	— 0.3	14.4	+ 0.6	19.6	19.1	— 0.2	15.4	+ 0.4	65	+ 4	—	—	—	8.1
Fayoum	—	—	26.4	— 0 1	13.0	— 0.2	19.7	19.4	— 0.1	15.5	+ 0.4	64	+ 5	—	—	—	3.6
Minya (A)	1017.1	+ 0.5	26.0	— 0 8	12.5	+ 1.0	18.8	18.6	+ 0.2	14.6	+ 0.1	62	+ 2	264.7	323.5	82	6.7
Assyout (A)	1016.2	— 0.2	26.7	+ 0.1	13.2	+ 0.4	20.0	19.4	0.0	14 2	+ 0.6	53	+ 5	—	—	—	9.3
Luxor (A)	1014.8	+ 0.2	30.7	+ 1.0	13 5	+ 1.3	22.1	21.7	+ 0.2	15.3	+ 0.5	47	0	—	—	—	9.5
Aswan (A)	1014.3	— 0.1	30.3	— 0.2	15.6	+ 1.0	22.9	22.7	+ 0.3	14.2	+ 0.7	34	+ 4	—	—	—	17.8
Siwa	1018.4	+ 0.4	25.6	— 0.7	11.0	+ 0.9	18.3	18.1	+ 0.1	12.8	+ 0.2	51	+ 1	276.1	321.7	86	8.0
Bahariya	1018.2	+ 0.5	25.9	— 0.3	12.1	+ 0.8	19.0	18.7	+ 0.5	13.7	+ 0.2	54	+ 3	—	—	—	5.2
Farafra	1019.1	+ 0.6	25.2	— 1.0	11.5	+ 0.8	18.4	18.1	— 0.2	13.1	+ 1.2	53	+10	—	—	—	8.6
Dakhla	1017.7	+ 2.3	26.3	— 1.4	11.6	+ 0.1	18.8	18.7	— 0.4	12.8	+ 0.8	46	+ 8	—	—	—	10.1
Kharga	1016.1	— 0.0	27.8	+ 0.1	14.0	+ 1.1	20.9	21.0	+ 0.4	14.0	+ 0.6	46	+ 4	306.5	328.0	93	12.5
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	1014.9	+ 0.1	26.7	+ 0.8	17.0	+ 1.5	21.8	22.0	+ 1.1	17.4	+ 1.9	61	+ 7	—	—	—	10.3
Quseir	1014.5	— 0.1	26.8	— 0 5	20.1	+ 0.6	23.5	23.6	+ 0 5	18.2	+ 0 9	56	+ 3	—	—	—	15.5

Table A 2.—MAXIMUM & MINIMUM AIR TEMPERATURE

NOVEMBER — 196 9

Station	Maximum Temperature °C									Grass Min. Temp.		Minimum Temperature °C							
	Highest	Date	Lowest	Date	No. of Days with Max-Temp.					Mean	Dev. From Normal	Highest	Date	Lowest	Date	No. of Days with Min. Temp.			
					>25	>30	>35	>40	>45							<10	<5	<0	<-5
Sallum	28.3	26	19.8	29	8	0	0	0	0	15.2	—	17.9	22	12.4	30	0	0	0	0
Mersa Matruh . (A)	25.3	27	20.0	29	1	0	0	0	0	12.3	—	18.0	22	11.0	30	0	0	0	0
Alexandria . . . (A)	27.2	1	21.5	30	1	0	0	0	0	12.8	—	18.2	2	12.1	19	0	0	0	0
Port Said . . . (A)	27.0	1	22.0	30	4	0	0	0	0	14.3	—	20.7	5	15.8	3	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	×	—	×	—	×	×	×	×	×	—	—	×	—	×	—	×	×	×	×
Cairo . . . . . (A)	26.6	1	20.8	30	18	0	0	0	0	—	—	18.3	1	11.2	27	0	0	0	0
Fayoum	28.3	17	22.4	30	28	0	0	0	0	11.4	—	15.6	13	8.9	30	2	0	0	0
Minya . . . . . (A)	28.7	27	20.8	30	26	0	0	0	0	9.7	—	15.6	23	8.5	30	2	0	0	0
Assyout . . . . (A)	30.2	1	21.3	30	27	1	0	0	0	10.7	—	18.8	2	9.0	30	1	0	0	0
Luxor . . . . . (A)	33.2	1	25.8	30	30	23	0	0	0	11.0	—	16.4	2	10.4	29	0	0	0	0
Aswan . . . . . (A)	33.0	2	26.0	30	30	19	0	0	0	—	—	18.6	2	13.5	9	0	0	0	0
Siwa	28.2	11	21.8	29	21	0	0	0	0	7.8	—	17.4	1	6.1	30	11	0	0	0
Bahariya	28.8	27	21.7	30	23	0	0	0	0	10.7	—	14.3	13	6.9	30	4	0	0	0
Farafra	29.8	28	20.6	30	11	0	0	0	0	10.8	—	14.4	13	6.0	27	6	0	0	0
Dakhla	33.0	1	21.4	30	26	1	0	0	0	—	—	17.0	2	6.2	27	7	0	0	0
Kharga	32.3	1	22.7	30	29	4	0	0	0	12.1	—	17.8	7	9.6	29	2	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	29.6	2	23.4	30	29	0	0	0	0	—	—	19.8	2	14.0	28	0	0	0	0
Quseir	28.7	2	23.6	30	29	0	0	0	0	17.1	—	21.7	23	17.5	28	0	0	0	0

Table A 3.—SKY COVER AND RAINFALL

NOVEMBER — 1969

Station	Mean Sky Cover Oct					Rainfall mms										
	00 U.T.	06 U.T.	12 U.T.	18 U.T.	Daily Mean	Total Amount	Dev. From Normal	Max. Fall in one day		Number of Days With Amount of Rain						
								Amount	Date	< 0.1	≥ 0.1	≥ 1.0	≥ 5.0	≥ 10	≥ 25	≥ 50
Sallum	4.4	3 0	4.8	4.0	4.1	1.4	—27.1	1.4	1	0	1	1	0	0	0	0
Mersa Matruh . (A)	2.5	4.7	4.4	3.1	3.7	12.5	—11.1	11.7	1	0	3	1	1	1	0	0
Alexandria . . . (A)	4.8	4.4	5.3	4.0	4.6	21.1	— 7.7	15.2	8	0	5	3	1	1	0	0
Port Said . . . (A)	—	3.3	3.2	3.4	—	1.0	— 8.7	0.7	28	1	2	0	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1.9	1.7	3.7	1.4	2.2	0.0	— 4.2	0.0	—	0	0	0	0	0	0	0
Cairo . . . . . (A)	1.4	4.1	3.0	2.3	2.8	0.0	— 2.7	0.0	—	0	0	0	0	0	0	0
Fayoum	—	2.0	2.4	2.2	—	0.0	— 0.5	0.0	—	0	0	0	0	0	0	0
Minya . . . . . (A)	1.2	2.6	1.9	1.1	1.6	0.0	— 0.2	0.0	—	0	0	0	0	0	0	0
Assyout. . . . . (A)	0.6	1.3	1.0	1.1	0.9	0.0	— tr,	0.0	—	0	0	0	0	0	0	0
Luxor . . . . . (A)	0.5	1.3	1.7	1.8	1.1	0.0	— 0.1	0.0	—	0	0	0	0	0	0	0
Aswan . . . . . (A)	0.4	1.0	1.7	0.5	1.0	0.0	— tr.	0.0	—	0	0	0	0	0	0	0
Siwa	0.9	1.9	4.8	1.2	2.2	0.0	— 0.6	0.0	—	0	0	0	0	0	0	0
Bahariya	1.2	2.0	2.7	1.1	1.8	0.0	— 0.6	0.0	—	0	0	0	0	0	0	0
Farafra	—	1.3	2.7	1.3	—	0.9	+ 0.8	0.9	1	0	1	0	0	0	0	0
Dakhla	1.4	1.1	1.0	0.6	1.0	0.0	— tr.	0.0	—	0	0	0	0	0	0	0
Kharga	0.3	1.0	1.5	0.7	0.9	0.0	— 0.1	0.0	—	0	0	0	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0.8	1.6	2.0	0.9	1.4	0.0	— 0.2	0.0	—	0	0	0	0	0	0	0
Quseir	0.7	1.8	2.3	1.0	1.4	0.0	— 1.9	0.0	—	0	0	0	0	0	0	0

Table A 4.—DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA

NOVEMBER — 1969

Station	Precipitation				Frost	Thunderstorm	Mist Vis ≥1000 metres	Fog Vis <1000 Metres	Haze Vis ≥1000 Metres	Thick Haze Vis <1000 Metres	Dust or Sandrising Vis ≥1000 Metres	Dust or Sandstorm Vis <1000 Metres	Gale	Clear Sky	Cloudy Sky
	Rain	Snow	Ice. Pellets	Hail											
Sallum.	1	0	0	0	0	0	0	0	0	0	1	0	0	3	2
Mersa Matruh. .(A)	3	0	0	0	0	0	0	0	0	0	0	0	0	3	2
Alexandria. . . .(A)	5	0	0	0	0	0	5	2	1	0	2	0	0	0	1
Port Said. . . .(A)	2	0	0	0	0	0	0	0	0	0	0	0	0	—	—
El Arish.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta.	0	0	0	0	0	0	6	2	0	0	0	0	0	—	—
Cairo. . . . . .(A)	0	0	0	0	0	0	6	4	5	0	0	0	0	12	0
Fayoum.	0	0	0	0	0	0	1	0	0	0	0	0	0	—	—
Minya. . . . . .(A)	0	0	0	0	0	0	12	0	2	0	1	0	0	21	0
Assyout. . . . .(A)	0	0	0	0	0	0	4	1	-	0	1	0	0	25	0
Luxor. . . . . .(A)	0	0	0	0	0	0	0	0	0	0	0	0	0	24	0
Aswan. . . . . .(A)	0	0	0	0	0	0	0	0	0	0	3	0	0	24	0
Siwa.	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0
Bahariya.	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0
Farafra.	1	0	0	0	0	0	0	0	0	0	1	0	0	—	—
Dakhla.	0	0	0	0	0	0	0	0	0	0	0	0	0	21	0
Kharga.	0	0	0	0	0	0	0	0	0	0	1	0	0	25	0
Tor.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada.	0	0	0	0	0	0	0	0	0	0	7	0	0	22	0
Quseir	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0

Table A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

NOVEMBER — 1969

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												All directions
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	
Sallum	1	0	0	1—10	73	50	67	20	7	2	7	18	35	44	114	142	579
				11— 27	1	2	4	0	0	0	0	1	16	21	50	45	140
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**74**	**52**	**71**	**20**	**7**	**2**	**7**	**19**	**51**	**65**	**164**	**187**	**719**
Mersa Matruh. (A)	7	2	0	1—10	129	97	11	16	9	18	37	65	99	69	22	40	612
				11—27	14	7	0	0	0	0	3	8	20	15	8	24	99
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**143**	**104**	**11**	**16**	**9**	**18**	**40**	**73**	**119**	**84**	**30**	**64**	**711**
Alexandria . . (A)	5	0	0	1—10	102	41	22	14	15	25	30	12	9	40	58	181	609
				11—27	24	4	0	0	0	0	0	5	3	17	19	34	106
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All Speeds	**126**	**45**	**22**	**14**	**15**	**25**	**30**	**17**	**12**	**57**	**77**	**215**	**715**
Port Said. . . (A)	0	0	0	1—10	151	83	20	9	11	3	10	26	71	31	41	81	537
				11—27	92	37	0	0	0	0	4	2	8	7	21	12	183
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**243**	**120**	**20**	**9**	**11**	**3**	**14**	**28**	**79**	**38**	**62**	**93**	**720**
Tanta	37	0	444	1—10	25	0	0	0	3	5	32	20	26	39	36	53	239
				11—27	0	0	0	0	0	0	0	0	0	0	0	0	0
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**25**	**0**	0	**0**	**3**	**5**	**32**	**20**	**26**	**39**	**36**	**53**	**239**
Cairo . . . . . (A)	132	2	1	1—10	39	142	81	36	4	1	24	20	21	18	26	30	442
				11—27	18	93	5	0	0	2	6	8	1	3	3	4	143
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**57**	**235**	**86**	**36**	**4**	**3**	**30**	**28**	**22**	**21**	**29**	**34**	**585**
Fayoum	24	0	0	1—10	384	117	7	4	1	1	10	11	24	11	16	58	644
				11—27	7	45	0	0	0	0	0	0	0	0	0	0	52
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**391**	**162**	**7**	**4**	**1**	**1**	**10**	**11**	**24**	**11**	**16**	**58**	**696**
Minya	61	0	0	1—10	452	19	0	0	0	1	6	4	5	6	4	36	533
				11—27	115	11	0	0	0	0	0	0	0	0	0	0	126
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**567**	**30**	**0**	0	**0**	**1**	**6**	**4**	**5**	**6**	**4**	**36**	**659**
Assyout	3	0	0	1—10	2	1	1	3	7	2	1	2	142	257	108	23	549
				11—27	1	0	0	0	0	0	0	1	1	54	64	47	168
				38—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**3**	**1**	**1**	**3**	**7**	**2**	**1**	**3**	**143**	**311**	**172**	**70**	**717**

Table A 5. *(contd.)*—**NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES**

NOVEMBER — 1969

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indication												All directions
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	
Luxor . . . . . (A)	9	8	2	1—10	25	17	10	21	21	79	160	41	54	87	114	58	687
				11—27	0	0	0	0	0	0	0	0	0	0	13	1	14
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**25**	**17**	**10**	**21**	**21**	**79**	**160**	**41**	**54**	**87**	**127**	**59**	**701**
Aswan . . . . . (A)	0	1	1	1—10	463	110	7	0	0	0	0	0	0	0	1	60	641
				11—27	62	11	0	0	0	0	0	0	0	0	0	4	77
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**525**	**121**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**64**	**718**
Siwa	35	0	2	1—10	53	59	75	28	28	46	32	26	29	82	123	100	681
				11—27	0	0	0	0	0	0	0	0	0	0	2	0	2
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**53**	**59**	**75**	**28**	**28**	**46**	**32**	**26**	**29**	**82**	**125**	**100**	**683**
Dakhla	10	0	0	1—10	67	8	9	3	1	4	11	19	39	109	169	203	642
				11—27	20	0	0	0	0	0	0	0	0	0	0	48	68
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**87**	**8**	**9**	**3**	**1**	**4**	**11**	**19**	**39**	**109**	**169**	**251**	**710**
Kharga	3	0	0	1—10	223	66	14	5	3	3	2	3	3	5	21	139	487
				11—27	201	6	0	0	0	0	0	0	0	0	0	23	230
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**424**	**72**	**14**	**5**	**3**	**3**	**2**	**3**	**3**	**5**	**21**	**162**	**717**
Hurghada.	11	0	0	1—10	27	16	4	2	1	0	2	1	2	4	59	20	138
				11—27	112	0	0	0	0	0	0	0	0	9	196	252	569
				28—47	0	0	0	0	0	0	0	0	0	0	0	2	2
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**139**	**16**	**4**	**2**	**1**	**0**	**2**	**1**	**2**	**13**	**255**	**274**	**709**
Quseir	3	0	3	1—10	38	40	11	6	0	1	2	2	5	8	108	174	395
				11—27	224	34	0	0	0	0	0	0	0	0	0	61	319
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**262**	**74**	**11**	**6**	**0**	**1**	**2**	**2**	**5**	**8**	**108**	**235**	**714**

UPPER AIR CLIMATOLOGICAL DATA

Table B 1.—MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

NOVEMBER — 1969

Station	Pressure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh (A) 0000 U.T.	Surface	29	*1016m.b.	*1020m.b.	*1007m.b.	29	17.3	21.0	13.1	29	13.9
	1000	29	162	198	89	29	18.3	22.0	15.0	29	14.1
	850	29	1536	1584	1476	29	9.6	15.7	4.8	29	2.8
	700	27	3132	3178	3060	27	3.5	7.3	— 4.0	27	— 9.2
	600	27	4317	4417	4278	27	— 3.9	0.0	— 8.6	26	—16.8
	500	26	5777	5850	5672	26	—14.5	—10.8	—18.8	26	—26.6
	400	26	7428	7525	7298	26	—26.7	—22.8	—30.5	25	—37.0
	300	25	9445	9564	9292	25	—42.2	—39.6	—45.6	22	—50.9
	270	19	10648	10784	10502	19	—50.4	—47.8	—55.2	16	—58.4
	200	15	12082	12204	11942	15	—58.6	—53.0	—62.5	7	—64.3
	150	10	13879	13949	13761	10	—65.2	—61.2	—71.5	—	—
	100	8	16327	16398	16225	8	—66.8	—57.7	—70.7	—	—
	70	4	18470	18590	18340	4	—64.2	—61.6	—66.1	—	—
	60	4	19432	19531	19347	4	—62.2	—61.2	—63.3	—	—
	50	2	20572	20671	20473	2	—60.2	—58.5	—62.0	—	—
	40	1	21859	—	—	1	—60.7	—	—	—	—
	30	1	23659	—	—	1	—59.0	—	—	—	—
	20	1	26238	—	—	1	—52.8	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 0000 UT	Surface	30	*1001m.b.	*1005m.b.	*996m.b.	30	16.8	18.2	13.5	30	12.7
	1000	30	151	182	114	24	16.4	23.6	12.1	24	12 8
	850	30	1525	1555	1488	30	11.6	15.2	5.8	30	— 1.5
	700	30	3124	3172	3084	30	3.9	7.0	— 0.4	30	—16.8
	600	30	4361	4425	4306	30	— 3.7	— 1.1	— 7.9	30	—23.1
	500	30	5775	5858	5711	30	—13.6	—10.8	—17.4	30	—31.3
	400	30	7434	7541	7367	30	—25.9	—21.7	—30.2	30	—40.9
	300	29	9449	9591	9362	29	—41.4	—36.9	—45.3	29	—53.5
	250	29	10662	10818	10558	29	—50.3	—46.3	—54.2	28	—61.9
	200	27	12090	12245	11960	27	—58.6	—52.7	—62.8	14	—67.0
	150	25	13871	13978	13720	25	—64.8	—61.4	—69.3	—	—
	100	25	16325	16422	16175	25	—67.7	—64.9	—72.0	—	—
	70	23	18488	18538	18357	23	—63.9	—57.7	—68.1	—	—
	60	19	19473	19600	19300	19	—61.7	—55.8	—65.7	—	—
	50	18	20533	20686	20428	18	—59.2	—54.0	—62.0	—	—
	40	13	22055	22180	21910	13	—56.9	—53.1	—60.4	—	—
	30	12	23796	23928	23630	12	—54.4	—51.0	—58 4	—	—
	20	5	26487	26565	26292	5	—50.0	—47.8	—51.5	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan (A) 0000 UT	Surface	30	*991m.b.	*993m.b.	*988m.b.	30	18.6	21.3	16.0	30	6.7
	1000	30	116	133	90	—	—	—	—	—	—
	850	30	1515	1538	1493	30	16.3	19.5	14.0	30	0.6
	700	30	3140	3184	3102	30	8.3	12.0	3.2	30	—13.9
	600	30	4395	4448	4336	30	0.5	3.9	— 6.9	30	—19.7
	500	30	5833	5898	5732	30	— 8.9	— 4.8	—15.7	30	—28.0
	400	30	7523	7609	7398	30	—21.4	—17.3	—24.7	30	—37.4
	300	29	9581	9698	9455	29	—36.8	—33.5	—41.6	29	—48.6
	250	26	10805	10904	10594	26	—46.5	—43.7	—51.8	26	—57.7
	200	26	12254	12368	12138	26	—55.8	—48.2	—60.4	24	—64.9
	150	24	14043	14117	13940	24	—64.9	—61.0	—68.9	—	—
	100	24	16478	16573	16409	24	—71.3	—65.7	—76.0	—	—
	70	17	18605	18680	18380	17	—66.1	—62.9	—69.6	—	—
	60	13	19549	19590	19491	13	—63.9	—61.6	—66.8	—	—
	50	12	20670	20716	20596	12	—60.3	—51.8	—64.1	—	—
	40	9	22065	22118	21978	9	—58.7	—55.7	—60.2	—	—
	30	7	23915	23941	23860	7	—53.7	—50.6	—55.4	—	—
	20	2	26528	26563	26494	2	—48.6	—47.6	—49.6	—	—
	10	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

UPPER AIR CLIMATOLOGICAL DATA

Table B 1.(*contd.*)—MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALEUS OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

NOVEMBER — 1969

Station	Presure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Meteorah (A) 1200 UT	Surface	30	* 1015m.b.	* 1020m.b.	* 1008m.b.	30	21.6	25.0	18.3	30	14.9
	1000	30	100	200	104	30	20.1	23.3	16.8	30	13.4
	850	30	1535	1581	1488	30	9.9	13.9	3.9	30	1.6
	700	30	3132	3171	3073	30	3.3	7.7	— 0.5	30	— 8.2
	600	30	4366	4408	4297	30	— 4.0	— 0.9	— 8.7	30	—15.7
	500	30	5779	5836	5700	30	—14.2	—11.4	—17.5	29	—24.3
	400	29	7447	7512	7331	29	—26.4	—23.0	—30.5	29	—36.4
	300	26	9446	9561	9321	26	—41.7	—38.1	—44.9	23	—51.0
	250	23	10665	10787	10517	23	—50.5	—46.6	—54.1	14	—58.5
	200	18	12097	12213	11933	18	—59.1	—52.3	—62.9	8	—65.1
	150	12	13873	14019	13730	12	—64.3	—60.1	—70.9	—	—
	100	6	16346	16528	16212	6	—67.0	—64.0	—71.5	—	—
	70	3	18510	18570	18460	3	—62.3	—60.8	—64.5	—	—
	60	3	19459	19516	19408	3	—59.4	—58.6	—60.7	—	—
	50	2	20035	20067	20003	2	—56.7	—56.4	—57.0	—	—
	40	1	22087	—	—	1	—55.3	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 1200 UT	Surface	30	* 1000m.b.	* 1003m.b.	* 995m.b.	30	24.0	26.6	20.1	30	10.2
	1000	30	142	166	98	22	23.5	26.3	19.9	22	9.6
	850	30	1530	1561	1498	30	12.2	16.6	7.4	30	— 1.8
	700	30	3137	3183	3101	30	4.9	9.7	1.1	30	—16.0
	600	30	4378	4442	4330	30	— 2.6	0.1	— 5.5	30	—22.8
	500	29	5798	5876	5741	29	—12.7	— 9.5	—18.5	29	—29.7
	400	28	7461	7568	7397	28	—25.3	—21.0	—28.8	28	—40.5
	300	27	9481	9620	9396	27	—40.8	—37.0	—45.4	26	—53.7
	250	27	10697	10849	10588	27	—49.5	—46.2	—54.1	25	—61.2
	200	27	12132	12282	12002	27	—57.6	—51.8	—62.0	20	—67.9
	150	25	13919	14047	13794	25	—63.6	—60.2	—68.6	—	—
	100	23	16391	16512	16238	23	—66.5	—61.5	—71.1	—	—
	70	18	18576	18650	18505	18	—62.3	—59.7	—65.5	—	—
	60	17	19565	19650	19460	17	—60.3	—56.7	—64.0	—	—
	50	16	20686	20750	20596	16	—57.6	—54.0	—63.5	—	—
	40	13	22172	22270	22040	13	—54.6	—51.9	—58.4	—	—
	30	10	23964	24050	23815	10	—50.7	—46.3	—53.3	—	—
	20	9	26629	26710	26462	9	—47.4	—43.0	—51.0	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan 1200 UT	Surface	30	* 990m.b.	* 993m.b.	* 987m.b.	30	28.8	33.0	24.5	30	8.1
	1000	30	107	141	79	—	—	—	—	—	—
	850	30	1516	1539	1457	30	16.7	21.4	12.2	30	— 1.6
	700	30	3145	3171	3080	30	8.8	13.6	3.5	30	—14.2
	600	29	4401	4439	4335	29	1.1	4.3	— 5.9	29	—20.7
	500	29	5812	5865	5738	29	— 8.1	— 5.0	—13.4	29	—28.2
	400	28	7528	7595	7404	28	—21.0	—16.3	—25.2	28	—38.2
	300	28	9593	9690	9456	28	—36.2	—31.0	—39.9	28	—50.8
	250	27	10835	10956	10697	27	—45.6	—41.1	—50.1	27	—58.2
	200	27	12291	12438	12152	27	—55.6	—51.5	—60.0	26	—66.3
	150	26	14089	14266	13966	26	—64.5	—58.8	—68.6	1	—70.7
	100	25	16409	16756	16395	25	—69.7	—64.1	—74.3	—	—
	70	19	18693	18980	18530	19	—66.1	—62.5	—71.4	—	—
	60	13	19613	19881	19276	13	—61.9	—59.4	—66.4	—	—
	50	12	20799	21035	20589	12	—57.3	—53.3	—60.6	—	—
	40	7	22177	22361	22006	7	—54.7	—50.1	—57.6	—	—
	30	6	24015	24251	23854	6	—49.2	—41.4	—54.6	—	—
	20	5	26689	27002	26516	5	—43.7	—37.7	—47.6	—	—
	10	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

Table B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE; THE HIGHEST WIND SPEED IN THE UPPER AIR

NOVEMBER — 1969

	Station	Freezing Level									First Tropopause									Highest wind speed			
		Mean			Highest			Lowest			Mean			Highest			Lowest						
		Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Direction (000—360)°	Speed in Knots
0000 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	Mersa Matruh (A)	3641 (27)	678 (27)	—11.5 (26)	4417	600	—24.2	2290	772	—2.5	13526 (8)	161 (8)	—65.2 (8)	15470	116	—68.0	11810	204	—56.4	7690	380	280	110
	Helwan	3426 (30)	647 (30)	—24.8 (30)	4230	614	—	2849	724	—4.2	14804 (24)	150 (24)	—66.3 (24)	16230	101	—69.5	12000	202	—61.1	9450	304	255	162
	Aswan . . . (A)	4510 (30)	595 (30)	—20.3 (30)	5580	585	—20.2	3430	673	—16.3	15823 (19)	113 (19)	—70.7 (19)	17930	79	—72.1	14050	150	—64.1	10850	250	324	120
1200 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	Mersa Matruh (A)	3655 (30)	657 (30)	—11.0 (30)	4200	615	— 9.6	2700	738	—6.7	12837 (9)	182 (9)	—61.6 (9)	14830	129	—66.0	9120	314	—42.1	13180	164	290	122
	Helwan	3931 (30)	635 (30)	—20.2 (30)	4442	600	—15.0	3290	686	—13.7	13598 (23)	161 (23)	—63.8 (23)	16412	100	—65.5	11440	224	—56.5	10275	264	235	150
	Aswan . . . (A)	4612 (29)	586 (29)	—21.3 (29)	5130	550	—22.8	3670	654	—22.1	15588 (20)	120 (20)	—49.2 (20)	17720	82	—75.0	12100	204	—60.0	12500	194	252	117

N = The number of cases the element has been observed during the month.

Table B 3.—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

MERSA MATRUH (A) — NOVEMBER 1969

Time	Pressure Surface Millibar	Wind between specified ranges of direction (000—360)°																						Number of calm winds	Total number of observations (TN)	Mean scalar wind
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 22		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	2	12	3	7	0	—	1	6	0	—	0	—	3	11	4	8	6	8	2	16	0	—	3	7	5	29	7
	1000	2	6	1	10	0	—	0	—	0	—	2	16	0	—	0	—	1	26	1	3	1	18	1	13	0	9	13
	850	3	11	0	—	0	—	1	8	0	—	0	—	0	—	1	11	0	—	1	23	2	6	1	12	0	9	11
	700	1	7	2	10	0	—	0	—	0	—	0	—	0	—	0	—	1	41	1	9	0	—	2	17	0	7	16
	600	0	—	1	13	0	—	1	11	0	—	0	—	0	—	0	—	0	—	1	41	3	14	1	13	0	7	17
	500	0	—	1	17	1	20	0	—	0	—	0	—	0	—	0	—	0	—	2	44	2	19	1	20	0	7	26
	400	1	3	0	—	0	—	1	31	0	—	0	—	0	—	0	—	0	—	0	—	2	35	2	28	0	6	32
	300	1	42	0	—	1	37	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	34	2	38	0	6	37
	250	1	30	1	32	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	44	1	51	0	5	40
	200	0	—	0	—	1	15	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	65	2	43	0	4	42
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	15	2	39	1	78	0	4	43
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	21	1	16	0	—	0	2	18
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	13	0	—	0	2	13
	60	0	—	0	—	0	—	0	—	0	—	0	—	1	21	0	—	0	—	0	—	0	—	0	—	0	1	21
	50	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	22	0	—	0	1	22
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	6	8	5	7	1	4	0	—	0	—	2	4	0	—	2	10	0	—	0	—	3	10	11	10	0	30	9
	1000	5	11	0	—	1	7	0	—	0	—	1	7	0	—	1	13	1	10	2	10	3	14	10	13	1	25	11
	850	4	12	0	—	4	6	0	—	1	16	1	7	0	—	2	2	2	14	4	14	2	12	4	10	0	24	10
	700	4	9	3	11	0	—	0	—	0	—	0	—	0	—	2	6	2	14	5	18	4	14	4	12	0	24	13
	600	2	14	1	14	1	12	0	—	0	—	0	—	0	—	1	24	1	5	8	22	4	14	5	16	0	23	18
	500	2	10	0	—	2	16	0	—	0	—	0	—	0	—	1	27	3	37	6	19	8	23	1	48	0	23	24
	400	1	19	2	13	1	17	0	—	0	—	0	—	0	—	0	—	3	44	6	33	5	37	1	47	0	19	35
	300	0	—	1	34	1	25	0	—	0	—	0	—	0	—	0	—	6	52	2	77	5	60	3	44	0	18	53
	250	0	—	1	29	1	11	0	—	0	—	0	—	0	—	0	—	4	60	2	60	4	83	3	46	0	15	60
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	73	2	73	5	67	2	56	0	12	67
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	52	1	102	3	—	2	54	0	7	53
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	43	0	—	2	55	0	—	0	3	40
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	30	0	—	0	1	30
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the wind has been observed from the range of direction during the month.

TN = The total number of cases the wind has been observed for all directions during themonth.

Table B 8 (*contd.*).—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

HELWAN—NOVEMBER 1969

Time	Pressure Surface Millibar	Wind between specified ranges of direction (000—360)°																						Number of calm winds	Total number of observations (TN)	Mean scalar wind speed (knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	12	7	7	12	2	6	0	—	2	4	0	—	0	—	0	—	0	—	0	—	3	5	3	5	1	30	7
	1000	10	8	7	19	3	12	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	10	2	6	0	24	12
	850	3	15	5	18	5	10	2	6	1	6	0	—	2	14	0	—	4	17	1	8	4	18	2	10	1	30	13
	700	8	10	2	10	0	—	1	6	0	—	0	—	1	12	0	—	6	27	3	7	6	24	3	7	0	30	15
	600	2	14	1	12	0	—	1	14	0	—	0	—	0	—	1	14	5	28	11	27	5	15	4	19	0	30	22
	500	2	18	2	15	1	22	0	—	0	—	0	—	1	12	0	—	5	51	11	29	3	18	4	29	0	29	29
	400	1	32	1	29	2	28	0	—	0	—	0	—	0	—	1	27	3	23	13	54	4	40	3	46	0	28	43
	300	1	34	1	52	1	30	0	—	0	—	1	28	0	—	0	—	4	61	7	75	5	41	1	132	0	21	59
	250	1	56	0	—	1	22	0	—	0	—	0	—	0	—	0	—	5	61	5	88	5	63	1	37	0	18	65
	200	1	18	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	55	4	61	2	33	0	12	50
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	8	58	2	49	0	—	0	10	56
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	27	7	44	1	18	0	—	0	9	40
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	44	1	16	1	25	0	5	37
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	9	0	—	0	2	9
	50	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	8	0	—	1	15	0	—	0	—	0	2	12
	40	1	19	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	19
	30	0	—	1	11	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	11
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	11	12	8	14	1	2	0	—	0	—	0	—	1	5	1	10	0	—	3	5	2	8	3	7	0	30	11
	1000	8	15	5	13	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	6	3	7	4	9	0	22	11
	850	6	8	7	13	4	8	0	—	2	6	0	—	2	6	0	—	3	13	2	13	3	8	1	10	0	30	10
	700	7	9	4	10	2	10	0	—	2	5	0	—	1	8	0	—	2	25	6	16	5	13	1	35	0	30	13
	600	5	14	0	—	2	10	1	9	1	6	0	—	0	—	1	5	3	36	6	24	7	18	3	25	0	29	19
	500	0	—	1	13	1	16	1	14	1	10	0	—	1	41	0	—	6	40	10	28	5	19	3	29	0	29	27
	400	0	—	0	—	2	34	1	33	0	—	0	—	0	—	1	43	4	38	11	39	7	36	0	—	0	26	38
	300	0	—	1	25	2	24	0	—	1	76	0	—	0	—	0	—	3	71	13	72	2	54	2	77	0	24	66
	250	1	14	2	26	0	—	0	—	0	—	0	—	0	—	0	—	3	48	10	71	1	46	2	72	0	19	58
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	36	7	61	2	38	2	73	0	13	55
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	9	51	2	46	0	—	0	11	50
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	52	1	20	0	—	0	7	48
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	16	0	—	0	—	0	2	16
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	23	1	19	0	—	0	2	21
	50	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	20	1	21	0	2	20
	40	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	17	1	6	0	2	12
	30	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	1	0	—	0	—	0	1	1
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the winds has been observed from the range of direction during the month.
TN = The total number of cases the wind has been observed for all directions during the month.

SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

ASWAN (A) — NOVEMBER — 1969

Time	Pressure Surface Millibar	Wind between ranges of direction (000–360)° 345/014 N	345/014 (ff) m	015/044 N	015/044 (ff) m	045/074 N	045/074 (ff) m	075/104 N	075/104 (ff) m	105/134 N	105/134 (ff) m	135/164 N	135/164 (ff) m	165/194 N	165/194 (ff) m	195/224 N	195/224 (ff) m	225/254 N	225/254 (ff) m	255/284 N	255/284 (ff) m	285/314 N	285/314 (ff) m	315/344 N	315/344 (ff) m	Number of calm winds	Total number of observations (TN)	Mean scalar wind speed (Knots)
0000 U.T.	Surface	27	8	1	7	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	8	0	30	8
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	3	6	8	9	8	14	0	—	1	3	1	3	0	—	1	2	1	1	0	—	3	7	4	7	0	30	9
	700	2	5	2	8	1	4	1	2	0	—	0	—	0	—	0	—	5	8	8	22	7	15	4	14	0	39	13
	600	0	—	1	4	0	—	0	—	0	—	0	—	0	—	0	—	6	15	8	30	11	18	4	14	0	30	19
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	31	15	28	7	20	2	16	0	30	26
	400	1	20	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	46	15	39	5	42	3	36	0	30	40
	300	1	25	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	62	17	48	6	50	1	24	0	29	49
	250	1	29	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	78	15	56	4	56	3	70	0	26	59
	200	1	28	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	58	16	71	5	67	3	68	0	26	68
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	63	14	60	7	62	0	—	0	23	61
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	44	13	39	3	35	0	—	0	18	39
	70	0	—	0	—	1	—	0	—	0	—	0	—	1	10	0	—	1	10	7	19	1	32	0	—	0	10	18
	60	0	—	0	—	0	—	1	18	0	—	0	—	0	—	1	22	0	—	5	11	1	9	1	5	0	9	12
	50	0	—	0	—	0	—	0	—	0	—	0	—	1	9	1	5	1	26	1	10	2	14	1	14	0	7	13
	40	0	—	0	—	1	9	1	11	0	—	0	—	0	—	0	—	0	—	3	21	0	—	0	—	0	5	17
	30	0	—	0	—	0	—	0	—	0	—	0	—	1	10	1	23	0	—	0	—	0	—	0	—	0	2	16
	20	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	8	0	—	0	—	0	1	8
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	17	9	8	8	2	8	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	8	2	6	0	30	9
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	5	7	3	9	7	9	1	5	0	—	0	—	1	2	0	—	0	—	2	8	2	12	0	8	0	30	8
	700	2	8	2	10	1	7	1	4	0	—	0	—	1	10	2	4	3	7	5	17	8	12	5	11	0	30	11
	600	2	19	0	—	0	—	0	—	0	—	0	—	0	—	2	9	5	19	9	19	7	13	4	16	0	29	17
	500	1	12	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	32	18	25	3	25	2	31	0	29	26
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	44	13	37	10	38	1	12	0	28	37
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	54	13	55	8	46	1	50	0	28	52
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	76	15	60	7	53	2	63	0	27	60
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	111	18	68	5	76	3	39	0	27	68
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	16	68	8	70	1	45	0	25	68
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	40	11	53	8	28	0	—	0	20	42
	70	0	—	0	—	0	—	0	—	0	—	0	—	1	17	1	24	6	24	1	17	0	—	0	—	0	9	22
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	15	1	21	0	—	0	4	26
	50	0	—	0	—	1	13	0	—	0	—	0	—	0	—	0	—	0	—	1	8	0	—	0	—	0	2	10
	40	0	—	0	—	0	—	1	17	0	—	0	—	0	—	0	—	1	5	0	—	0	—	0	—	0	2	11
	30	0	—	1	8	0	—	0	—	0	—	0	—	0	—	0	—	1	20	0	—	0	—	0	—	0	2	14
	20	0	—	0	—	0	—	0	—	0	—	0	—	1	15	0	—	0	—	0	—	0	—	0	—	0	1	15
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

REVIEW OF AGRO-METEOROLOGICAL STATIONS

MERSA MATRUH — NOVEMBER 1969

This month as a whole was less rainy and slightly cooler than normal. The total monthly rainfall was 12.5 mm. against 23.6 mm. for normal. The daily maximum air temperatures were below normal most of the month. The lowest maximum air temperature for the month was 20.0°C reported on the 29th. Two light warm spells occurred during the periods (9th - 10th) and (25th - 27th). The second warm spell yielded the highest maximum air temperature for the month (25.3°C) and the lowest relative humidity (40 %) on the 27th.

The daily mean actual duration of bright sunshine was 0.7 hour less than the corresponding value of El Kasr in November 1968.

TAHRIR — NOVEMBER 1969

This month as a whole was slightly warmer than last November and rainless. The daily maximum air temperatures were slightly below average most of the month. Two light warm spells occurred on the I st and during the period (26th - 28th). The first warm spell yielded the highest maximum air temperature for the month (28.8°C). The second warm spell yielded the lowest relative humidity (30%) on the 28th.

The extreme maximum soil temperatures were lower than the corresponding values of last November at shallow depths between 2,10 cm. with differences varying between 3.9°C at 2 cm. and 0.9°C at 10 cm. At deeper depths between 20,100 cm. the extreme soil maxima were higher than last November with small differences varying between 0.1°, 0.9°C. The extreme minimum soil temperatures were higher than the corresponding values of last November at all depths, and the differences varied between 4.5°C at 2 cm. and 1.3°C at 100 cm.

The daily mean Pan evaporation was slightly more (0.04 mm.) than the corresponding value of November 1968. The daily mean actual duration of bright sunshine was 0.2 hour less than the corresponding value of November 1968.

BAHTIM — NOVEMBER 1969

This month as a whole was slightly warmer than last November and rainless. The daily maximum air temperatures were slightly below average most of the month. Four light warm spells occurred on the I st and during the periods (16-th - 17th), (22nd - 23th) and (26th - 28th). The first warm spell yielded the highest maximum air temperature for the month (27.5°C). The last warm spell yielded the lowest relative humidity (33%) on the 28th.

The extreme maximum soil temperatures were lower than the corresponding values of last November at shallow depths between 2, 10 cm. with differences varying between 3.1°C at 2 cm. and 0.8°C at 10 cm. At deeper depths between 20, 100 cm. the extreme soil maxima were slightly higher (0.6° to 0.7°C) than last November. The extreme minimum soil temperatures were higher than the corresponding values of last November at all depths, and the differences varied between 2.3°C at 10 cm. and 0.3°C at 100 cm.

The daily mean Pan evaporation was slightly less (0.01 mm.) than the corresponding value of November 1968. The daily mean actual duration of bright sunshine was the same as for November 1968.

KHARGA — NOVEMBER 1969

This month as a whole was slightly warmer than average. Three warm spells were experienced during the periods (Ist - 2nd), (19th - 21st) and (24th – 28th), otherwise the daily maximum air temperatures were below average. The first warm spell yielded the highest maximum air temperature for the month (32.3°C) and the lowest relative humidity (21 %) on the 1st.

The extreme maximum soil temperatures were higher than the corresponding values of last November at all depths, and the differences varied between 2.8°C at 2 cm. and 1.6°C at 100cm. The extreme minimum soil temperatures were also higher than the corresponding values of last November at all depths, and the differences varied between 3.6°C at 5 cm. and 0.7°C at 100 cm.

The daily mean Pan evaporation was 0.49 mm. more than the corresponding value of November 1968. The mean daily actual duration of bright sunshine was the same as for November 1968.

Table C 1. — AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

NOVEMBER — 1969

STATION	Air Temperature (°C)					Mean Duration in hours of daily air temperature above the following values										
	Mean Max.	Mean Min.	Mean of the day	Night time mean	Day time mean	−5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C
Mersa Matruh. .	22.8	14.2	18.3	16.6	20.2	24.0	24.0	24.0	24.0	20.8	7.3	0.0	0.0	0.0	0.0	0.0
Tahrir	25.4	12.7	18.2	15.2	21.3	24.0	24.0	24.0	23.9	17.1	8.5	0.4	0.0	0.0	0.0	0.0
Bahtim	25.1	10.8	17.7	14.7	20.8	24.0	24.0	24.0	23.6	15.7	7.8	0.8	0.0	0.0	0.0	0.0
Kharga . . .	27.8	14.0	21.0	18.4	23.8	24.0	24.0	24.0	24.0	21.8	13.7	5.5	0.2	0.0	0.0	0.0

Table C 2 — EXTREME VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS

NOVEMBER — 1969

STATION	Max. Temp. at 1½ metres (°C)				Min. Temp. at 1½ metres (°C)				Min. Temp. at 5 cms. above (°C)			
	Highest		Lowest		Highest		Lowest		Dry soil		Grass	
	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date
Mersa Matruh.	25.3	27	20.0	29	18.0	22	11.0	30	7.5	30	—	—
Tahrir	28.8	1	21.9	30	15.3	2	9.6	19,30	6.6	19	—	—
Bahtim	27.5	1	21.4	30	14.8	1	7.6	30	4.3	30	—	—
Kharga	32.3	1	22.7	30	17.8	7	9.6	29	7.1	29	—	—

Table C 3. SOLAR + SKY RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL

NOVEMBER — 1969

STATION	(Solar+Sky) Radiation gm. cal/cm²	Duration of Bright Sunshine (hours)			Relative Humidity				Vapour pressure (mms)						Evaporation (mms)		Rainfall (mms)		
		Total Actual monthly	Total Possible monthly	%	Mean of day	1200 U.T.	Lowest	Date	Mean of day	1200 U.T.	Highest	Date	Lowest	Date	Piche	Pan class (A)	Total Amount Monthly	Max. Fall in one day	Date
Mersa Matruh	261.8	243.6	316.9	77	73	61	40	27	11.4	11.7	14.4	1	6.7	30	5.6	5.66	12.5	11.7	1
Tahrir . . .	333,6	256.8	318.7	81	77	52	30	28	11.7	11.6	14.7	17	7.7	1	4.8	4.51	0.0	0.0	—
Bahtim . . .	349.7	234.6	319.8	73	74	48	33	28	10.9	11.0	14.3	22	7.7	19	5.4	4.37	0.0	0.0	—
Kharga . .	356.6	306.5	328.0	93	47	32	21	1	8.6	8.6	11.4	21	4.7	29	12.5	9.80	0.0	0.0	—

TABLE C 4.—EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS IN DIFFERENT FIELDS

NOVEMBER — 1969

STATION	Highest (H) Lowest (L)	Extreme soil temperature (°C) in dry field at different depths (cms.)								Extreme soil temperature (°C) in grass field at different depths (cms.)							
		2	5	10	20	50	100	200	300	2	5	10	20	50	100	200	300
Mersa Matruh	H	27.1	24.3	21 9	20.6	21.2	22.8	24.2	—	—	—	—	—	—	—	—	—
	L	13.1	13.9	15.2	17.2	19.4	21.1	22.6	—	—	—	—	—	—	—	—	—
Tahrir	H	33 9	30.8	27 8	25.9	25.5	26.4	27.2	27.5	—	—	—	—	—	—	—	—
	L	14.1	14.2	15.6	18.3	21.3	23.1	24 8	25.9	—	—	—	—	—	—	—	—
Bahtime	H	35.7	30.8	27.3	26.7	27.5	28.0	27 7	26.7	—	—	—	—	—	—	—	—
	L	12.4	14.1	17 5	20.9	23.7	25.1	26.3	26.4	—	—	—	-	—	—	—	--
Kharga	H	41.0	35.6	31.0	29 3	30.2	31.3	31.1	30.4	—	—	—	—	—	—	—	—
	L	12.0	15.5	19.3	23.0	25.7	28.1	29.8	30.1	—	—	—	—	—	—	—	—

TABLE C 5.—SURFACE WIND

NOVEMBER — 1969

STATION	Wind Speed m/sec (1½ met.es)			Days with surface wind speed at 10 metres.							Max. Gust (knots) at 10 metres	
	Mean of the day	Night time mean	Day time mean	≥10 knots	≥15 knots	≥20 knots	≥25 knots	≥30 knots	≥35 knots	≥40 knots	value (knots)	Date
Mersa Matruh	3 0	2 5	3 4	28	8	3	2	1	1	1	56	1
Tahrir	1.9	1.2	2.7	25	8	0	0	0	0	0	22	12
Bahtim	2 0	0 9	3.2	—	—	—	—	—	—	—	--	—
Kharga	3.5	2 7	4.4	27	21	6	1	0	0	0	30	12

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THE ARAB REPUBLIC OF EGYPT

MONTHLY WEATHER REPORT

VOLUME 12 NUMBER 12

DECEMBER, 1969

U.D.C. 551. 506.1 (62)

THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

PUBLICATIONS OF THE METEOROLOGICAL AUTHORITY OF THE ARAB REPUBLIC OF EGYPT—CAIRO

In fulfilment of its duties, the Egyptian Meteorological Authority issues serveral reports and publications on weather, climate and agro-meteorology. The principal publications are described on this page.

Orders for publications should be addressed to :

"Chairman of the Board of Directors, Meteorological Authority, Kubri-el-Qubbeh — CAIRO".

THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Authority since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968 this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

As from 1st January 1972, the Daily Weather Report will not be issued or distributed because it does not serve no longer any good purpose as it used to be in the past. The Meteorological Authority is ready to supply the recipients of the Report with any information used to be included in it, if they so desire.

THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for Egypt.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of Egypt as well as monthly values of certain elements.

THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in March 1968 which brings normals and mean values up till 1960.

METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff of "The Meteorological Institute for Research and Training" and the Operational Divisions of the Meteorological Authority.

TECHNICAL NOTES

As from October 1970, the Meteorological Authority started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

CONTENTS

Note : For explanatory notes on tables please refer to Volume 12, Number 1 (January 1969).

GENERAL SUMMARY OF WEATHER CONDITIONS

DECEMBER 1969

Generally dry, characterized with seven transitory secondary depressions. Subnormal rainfall.

GENERAL DESCRIPTION OF WEATHER

The prevailing weather during this month was generally rather cold with light and subnormal rainfall in the northern parts of the Republic. In the middle and southern parts, weather was generally dry and mild day-time but cool night-time. Four cold waves of light intensity prevailed most of the month, and were preceded by short rather warm spells round the periods (1st – 3rd), (9th – 12th), (20th – 21st) and (27th – 29th). The first and second warm spells were the most pronounced, mainly in land areas.

Light rising sand occurred during several days over scattered parts in north of the Republic, mainly over west of the Mediterranean coast. Early morning mist and fog developed during several days over scattered localities in Delta, Cairo and north of Upper Egypt district.

PRESSURE DISTRIBUTION

The most prevailing pressure systems over the synoptic surface charts during this month were.

- The Siberian anticyclone.

– The Atlantic anticyclone and its extension over North Africa.

– Deep low pressure systems through North Europe.

Secondary depressions through the Mediterranean and its vicinities.

– The Sudan low pressure trough.

During this month seven secondary depressions were distinguished. The first four secondary depressions developed over Central Mediterranean and its vicinities on the 1st, 4th, 7th and 14th respectively, and then proceeded northeastwards. The troughs of the first, third and fourth depressions passed through East Mediterranean on the 3rd, 12th and 17th respectively. The second depression filled up west of the Black Sea on the 7th. The last three depressions originated over West Mediterranean on the 18th, 23rd and 26th. They moved eastwards and traversed East Mediterranean on the 22nd, 25th and 30th respectively.

The barometric pressure over Egypt during this month was in particular affected by the transit of the above mentioned secondary depressions through East Mediterranean, and experienced consecutive oscillations with their minima round the 3rd, 12th, 16th, 22nd, 25th and 30th.

The most outstanding pressure systems over the upper air charts were:

– Deep upper low pressure systems over North Eurasia and North Atlantic.

– Secondary upper troughs or lows through the Mediterranean Sea and its vicinities, traversing East Mediterranean on the 4th, 12th, 18th, 23rd and 26th.

– Upper high pressure belt south of latitude 30° N.

SURFACE WIND

Surface winds during this month were generally light to moderate w/sw in the northern parts, and Nly in the middle and southern parts. Winds became fresh to strong during several days over scattered localities, mainly over west of the Mediterranean coast.

TEMPERATURE

Maximum air temperature showed small variability in general in the northern parts, and moderate variability in the middle and southern parts. It was below normal during the cold waves which prevailed most days of the month and was above normal during the warm periods. Maximum air temperature values ranged generally between 18°, 22° C in the northern parts, between 20°, 25°C in the Middle parts, between 23° 30° C in the southern parts.

The absolute maximum air temperature was 33.2° C reported at Kom Ombo on the 10th.

Minimum air temperature showed irregular fluctuations. It was generally below normal most of the month. Minimum air temperature values ranged generally between 6°, 15° C in the northern and southern parts, and between 3°, 11 °C in the middle parts. It is worthy to mention that minimum air temperature fell below 0° C in few localities in the Western Desert district during the last week of the month.

The absolute minimum air temperature was — 1.1 °C reported at Dakhla on the 27th.

PRECIPITATION

This month was generally rainless with the exception of several days of light rain over the Mediterranean district, mostly during the second half of the month. The monthly totals of rainfall were excessively subnormal.

The highest daily rainfall was 11.0 mm. reported over Tolombat El Boseili (Lower Egypt) on the 22nd.

The highest monthly rainfall was 29.0 mm. reported at Tolombat El Tabia (Mediterranean district).

Chairman (M. F. TAHA)

Board of Directors

Cairo, March 1972

Table A 1.—MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION

DECEMBER 1969

STATION	Atmospheric Pressure (mbs) M.S.L.		Air Temperature °C									Relative Humidity %		Bright Sunshine Duration (Hours)			Piche Evaporation mms.
			Maximum		Minimum			Dry Bulb		Wet Bulb							
	Mean	D.F. Normal or Average	(A) Mean	D.F. Normal or Average	(B) Mean	D.F. Normal or Average	$\frac{A+B}{2}$	Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Total Actual	Total Possible	%	Mean
Sallum	1014.9	—2.1	20.4	—0.1	10.6	—0.4	15.5	15.1	—0.7	9.9	—1.8	47	—12	—	—	—	9.7
Mersa Matruh (A)	1016.0	—1.7	19.9	+0.1	9.1	—1.5	14.5	14.0	—0.5	10.4	—1.0	61	— 7	239.7	313.9	76	7.5
Alexandria (A)	1016.6	—0.9	21.0	+0.5	9.6	—1.5	15.3	15.1	—0.2	11.7	—1.0	64	— 8	218.5	315.6	69	4.7
Port Said (A)	1016.1	—1.2	20.7	+0.9	12.6	—1.0	16.6	16.1	—0.2	13.1	—0.6	69	— 4	250.2	315.6	79	7.5
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1016.2	—1.0	21.6	+0.3	7.6	—0.6	14.6	13.7	—1.0	10.5	—1.2	64	— 3	246.6	316.8	78	3.1
Cairo	1017.0	—1.0	21.5	+0.8	10.2	—0.2	15.8	15.6	+0.2	10.4	—1.1	48	—14	—	—	—	10.7
Fayoum	—	—	22.5	+0.6	6.5	—1.9	14.5	13.8	—0.6	10.0	—0.8	59	— 2	—	—	—	8.0
Minya (A)	1017.6	—0.7	22.2	+0.2	5.3	—1.6	13.8	13.1	—0.6	9.2	—0.9	56	— 6	261.9	322.9	81	4.8
Assyout (A)	1016.6	—1.4	22.9	+0.6	8.1	—0.7	15.5	15.0	—0.2	10.0	—0.2	49	0	—	—	—	8.4
Luxor (A)	1016.5	—0.4	26.0	+1.2	6.9	—0.7	16.4	15.7	+0.7	10.7	—0.4	50	— 3	—	—	—	4.6
Aswan (A)	1015.9	—0.5	26.6	+0.7	10.7	+0.6	18.6	18.1	+0.3	10.7	—0.2	33	— 3	—	—	—	14.8
Siwa	1015.5	—2.9	21.4	+0.1	5.6	—0.5	13.5	12.9	—0.7	7.6	—1.6	42	—13	259.4	319.9	81	6.7
Bahariya	1017.1	—1.2	23.0	+1.4	5.8	—0.9	14.4	13.8	—1.0	8.5	—1.5	44	— 6	—	—	—	6.1
Farafra	1018.3	—1.7	22.0	0.0	4.6	—1.4	13.3	12.8	—0.7	7.2	—1.3	38	— 8	—	—	—	5.7
Dakhla	1018.3	+1.0	23.7	+0.4	3.6	—2.5	13.6	13.0	—1.3	7.3	—1.5	38	— 6	—	—	—	6.5
Kharga	1016.9	—1.1	24.5	+0.5	7.0	—1.0	15.8	15.8	+0.6	8.8	—0.8	37	— 9	297.4	329.2	90	9.2
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	1015.8	—0.6	23.5	+1.0	11.8	+0.1	17.6	17.7	+0.5	12.9	+0.3	55	0	—	—	—	8.8
Quseir	1015.8	—0.5	24.2	+0.1	16.2	+0.4	20.2	20.3	+0.4	14.5	—0.5	50	— 8	—	—	—	12.2

Table A 2.—MAXIMUM AND MINIMUM AIR TEMPERATURES

DECEMBER — 1969

Station	Maximum Temperature °C									Grass Min. Tmp.		Minimum Temperature °C							
	Highest	Date	Lowest	Date	No. of Days with Max-Temp.					Mean	Dev. From Normal	Highest	Date	Lowest	Date	No. of Days with Min, Temp.			
					>25	>30	>35	>40	>45							<10	<5	<0	<-5
Sallum	27.9	2	16.9	25	1	0	0	0	0	10.1	—	16.7	2	6.9	8	13	0	0	0
Mesra Matruh (A)	25.6	2	16.8	25	1	0	0	0	0	7.4	—	13.1	3	4.5	6	20	1	0	0
Alexandria (A)	23.6	2	18.5	25	0	0	0	0	0	7.9	—	14.4	4	4.6	7	17	2	0	0
Port said (A)	23.8	3	17.7	15	0	0	0	0	0	11.5	—	17.0	11	9.5	22	1	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	26.8	3	17.7	15	3	0	0	0	0	—	—	11.7	12	3.2	28	25	4	0	0
Cairo (A)	27.4	2	18.5	15	3	0	0	0	0	—	—	14.3	4	6.3	28	13	0	0	0
Fayoum	28.8	10	18.9	26	4	0	0	0	0	3.9	—	10.8	3	3.0	22,29	29	7	0	0
Minya (A)	28.3	11	19.4	26	5	0	0	0	0	2.2	—	8.4	3	2.4	28	31	16	0	0
Assyout (A)	28.8	3	18.0	26	7	0	0	0	0	5.3	—	11.5	12	5.0	17	25	0	0	0
Luxor (A)	31.6	11	20.6	23	18	5	0	0	0	4.2	—	10.8	12	2.6	27	26	6	0	0
Aswan (A)	33.1	10	20.8	23	20	5	0	0	0	—	—	16.4	12	5.0	27	14	0	0	0
Siwa	28.9	2	18.1	22	2	0	0	0	0	3.0	—	11.0	3	1.6	31	30	13	0	0
Bahariya	29.6	2	18.8	23	7	0	0	0	0	4.7	—	11.0	4	1.0	27	29	12	0	0
Farafra	30.3	11	18.4	20	4	1	0	0	0	3.9	—	10.4	16	—0.6	29	30	18	1	0
Dakhla	29.8	9	19.4	23	10	0	0	0	0	—	—	10.8	4	—1.1	27	30	22	4	0
Kharga	31.5	11	19.8	23	11	3	0	0	0	4.7	—	13.8	11,13	1.6	25	24	9	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	27.2	11	20.6	24	7	0	0	0	0	—	—	15.3	21	7.8	25	7	0	0	0
Quseir	27.5	30	21.9	31	8	0	0	0	0	14.1	—	20.3	22	13.0	26	0	0	0	0

Table A 3.—SKY COVER AND RAINFALL

DECEMBER 1969

STATION	Mean Sky Cover (Oct).					Rainfall mms.										
	00 U.T.	06 U.T.	12 U.T.	18 U.T.	Daily Mean	Total Amount	D. From Normal	Max. Fall in one day		Number of days With Amount of Rain						
								Amount	Date	<0.1	≥0.1	≥1.0	≥5.0	≥10	≥25	≥50
Sallum	2.8	2.6	3.7	2.5	3.0	0.9	—19.2	0.8	15	0	2	0	0	0	0	0
Mersa Matruh (A)	1.8	3.1	3.4	1.7	2.4	0.9	—33.0	0.7	15	0	2	0	0	0	0	0
Alexandria . . (A)	3.8	3.6	4.1	3.1	3.6	8.8	—47.3	3.8	22	2	5	5	0	0	0	0
Port Said . . (A)	—	2.7	2.6	—	—	0.5	—18.4	0.3	30	0	2	0	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1.4	2.1	2.9	0.6	1.6	0.0	—10.0	0.0	—	0	0	0	0	0	0	0
Cairo . . . . (A)	1.0	2.4	3.3	1.2	1.9	0.0	— 8.0	0.0	—	0	0	0	0	0	0	0
Fayoum	—	2.3	2.9	1.7	—	0.0	— 4.6	0.0	—	0	0	0	0	0	0	0
Minya	0.6	1.8	2.1	1.0	1.4	0.0	— 0.7	0.0	—	0	0	0	0	0	0	0
Assyout. . . . (A)	0.7	1.5	1.7	1.1	1.1	0.0	— Tr.	0.0	—	0	0	0	0	0	0	0
Luxor . . . . (A)	1.2	1.9	1.9	1.7	1.7	0.0	— 0.1	0.0	—	0	0	0	0	0	0	0
Aswan . . . . (A)	1.0	1.7	2.0	1.5	1.5	0.0	— 0.2	0.0	—	0	0	0	0	0	0	0
Siwa	0.6	1.5	2.2	0.5	1.3	0.0	— 2.1	0.0	—	0	0	0	0	0	0	0
Bahariya	0.8	2.0	2.3	0.7	1.5	0.0	— 1.2	0.0	—	0	0	0	0	0	0	0
Farafra	—	1.5	2.4	1.0	—	0.0	— 0.3	0.0	—	0	0	0	0	0	0	0
Dakhla	0.4	0.4	1.2	0.5	0.6	0.0	— 0.1	0.0	—	0	0	0	0	0	0	0
Kharga	0.6	1.4	1.4	0.9	1.1	0.0	— 0.3	0.0	—	0	0	0	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0.8	1.8	2.1	1.4	1.5	0.0	— 2.2	0.0	—	0	0	0	0	0	0	0
Quseir	0.8	2.2	2.7	1.6	1.8	0.0	— 0.1	0.0	—	0	0	0	0	0	0	0

Table A 4.—DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA.

DECEMBER 1969

STATION	Precipitation				Frost	Thunderstorm	Mist Vis ≥ 1000 Metres	Fog Vis < 1000 metres	Haze Vis ≥ 1000 Metres	Thick Haze Vis < 1000 Metres	Dust or Sandrising Vis ≥ 1000 Metres	Dust or Sandstorm Vis < 1000 Metres	Gale	Clear Sky	Cloudy Sky
	Rain	Snow	Ice. Pellets	Hail											
Sallum	2	0	0	0	0	0	0	0	0	0	8	0	0	11	3
Mersa Matruh (A)	2	0	0	0	0	0	0	0	0	0	12	1	0	12	0
Alexandria (A)	5	0	0	0	0	1	0	2	1	0	4	1	0	8	1
Port Said (A)	2	0	0	0	0	0	0	0	0	0	2	0	0	—	—
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	0	0	0	0	0	0	4	0	2	0	2	0	0	17	0
Cairo (A)	0	0	0	0	0	0	0	1	16	0	1	1	0	18	0
Fayoum	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
Minya (A)	0	0	0	0	0	0	9	0	9	0	1	0	0	23	0
Assyout (A)	0	0	0	0	0	0	1	0	0	0	1	0	0	24	1
Luxor (A)	0	0	0	0	0	0	0	0	12	0	2	0	0	21	0
Aswan (A)	0	0	0	0	0	0	0	0	0	0	4	0	0	20	1
Siwa	0	0	0	0	0	0	0	0	1	0	4	0	0	22	1
Bahariya	0	0	0	0	0	0	0	0	0	0	2	0	0	22	0
Farafra	0	0	0	0	0	0	0	0	0	0	2	0	0	—	—
Dakhla	0	0	0	0	0	0	0	0	1	0	1	0	0	30	0
Kharga	0	0	0	0	0	0	0	0	1	0	1	0	0	24	1
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0	0	0	0	0	0	0	0	0	0	1	0	0	21	2
Quseir	0	0	0	0	0	0	0	0	0	0	0	0	0	20	1

Table A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

DECEMBER — 1969

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of direction indicated												
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	All directions
Sallum	1	4	0	1—10	4	20	5	17	18	27	33	30	40	56	78	12	340
				11—27	0	0	0	0	0	3	4	47	100	115	125	4	398
				28—47	0	0	0	0	0	0	0	0	0	0	1	0	1
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**4**	**20**	**5**	**17**	**18**	**30**	**37**	**77**	**140**	**171**	**204**	**16**	**739**
Mersa Matruh	3	0	0	1—10	7	6	3	6	14	44	65	61	65	40	19	21	351
				11—27	0	0	0	0	0	18	63	58	100	109	26	16	390
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**7**	**6**	**3**	**6**	**14**	**62**	**128**	**119**	**165**	**149**	**45**	**37**	**741**
Alexandria	0	0	0	1—10	27	17	34	60	56	63	103	74	35	29	13	13	524
				11—27	1	0	3	1	2	4	36	97	47	21	8	0	220
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**28**	**17**	**37**	**61**	**58**	**67**	**139**	**171**	**82**	**50**	**21**	**13**	**744**
Port Said	9	2	0	1—10	11	26	48	49	38	54	51	92	124	21	16	31	561
				11—27	0	2	5	6	0	2	25	99	29	0	4	0	172
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**11**	**28**	**53**	**55**	**38**	**56**	**76**	**191**	**153**	**21**	**20**	**31**	**733**
Tanta	342	0	0	1—10	10	11	16	27	11	8	46	66	79	53	17	13	357
				11—27	0	0	0	1	0	0	2	5	23	12	1	1	45
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**10**	**11**	**16**	**28**	**11**	**8**	**48**	**71**	**102**	**65**	**18**	**14**	**402**
Cairo	71	4	0	1—10	14	25	38	56	43	38	61	55	42	36	33	22	463
				11—27	3	0	9	9	3	2	65	81	20	11	0	3	206
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**17**	**25**	**47**	**65**	**46**	**40**	**126**	**136**	**62**	**47**	**33**	**25**	**669**
Fayoum	50	3	14	1—10	66	75	10	18	18	51	92	111	103	42	27	39	652
				11—27	0	0	0	0	0	0	4	7	8	0	0	0	19
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**66**	**75**	**10**	**18**	**18**	**51**	**96**	**118**	**111**	**42**	**27**	**39**	**671**
Minya	190	2	0	1—10	161	34	3	0	0	39	87	24	18	21	49	77	513
				11—27	13	6	0	0	0	3	5	2	1	1	6	2	39
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**174**	**40**	**3**	**0**	**0**	**42**	**92**	**26**	**19**	**22**	**55**	**79**	**552**

Table A 5 (*cont'd.*) NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

DECEMBER 1969

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												All directions
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	
Asyout	13	0	1	1—10	4	19	18	28	39	24	14	33	209	149	100	21	658
				11—27	1	0	0	0	3	0	2	5	12	24	18	7	72
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**5**	**19**	**18**	**28**	**42**	**24**	**16**	**38**	**221**	**173**	**118**	**28**	**730**
Luxor	45	0	0	1—10	70	80	45	55	32	69	93	23	40	56	65	68	696
				11—27	0	0	0	0	0	0	0	0	0	0	2	1	3
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**70**	**80**	**45**	**55**	**32**	**69**	**93**	**23**	**40**	**56**	**67**	**69**	**699**
Aswan	1	1	0	1—10	401	41	3	6	6	6	6	6	3	5	15	149	647
				11—27	62	5	0	0	0	0	0	0	0	0	1	27	95
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**463**	**46**	**3**	**6**	**6**	**6**	**6**	**6**	**3**	**5**	**16**	**176**	**742**
Siwa	28	12	0	1—10	11	4	7	61	83	79	48	35	55	160	102	13	658
				11—27	0	0	0	0	0	1	3	0	0	21	21	0	46
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**11**	**4**	**7**	**61**	**83**	**80**	**51**	**35**	**55**	**181**	**123**	**13**	**704**
Dakhla	63	4	0	1—10	27	23	32	49	35	31	52	41	45	98	134	106	673
				11—27	0	0	0	0	0	0	0	0	0	0	0	4	4
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**27**	**23**	**32**	**49**	**35**	**31**	**52**	**41**	**45**	**98**	**134**	**110**	**677**
Kharga	5	7	21	1—10	238	116	26	7	15	15	16	13	10	24	34	125	639
				11—27	56	7	1	0	0	0	0	0	0	0	2	6	72
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**294**	**123**	**27**	**7**	**15**	**15**	**16**	**13**	**10**	**24**	**36**	**131**	**711**
Hurghada	11	1	2	1—10	47	21	13	7	4	5	5	0	8	47	145	50	352
				11—27	43	0	0	0	1	3	1	0	0	29	154	147	378
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**90**	**21**	**13**	**7**	**5**	**8**	**6**	**0**	**8**	**76**	**299**	**197**	**730**
Qusseir	1	1	11	1—10	44	73	19	19	5	13	3	11	15	58	201	118	579
				11—27	72	10	0	0	0	0	1	0	0	4	9	56	152
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**116**	**83**	**19**	**19**	**5**	**13**	**4**	**11**	**15**	**62**	**210**	**174**	**731**

UPPER AIR CLIMATOLOGICAL DATA

Table B 1—MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

DECEMBER — 1969

Station	Pressure Surfare (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh 0000 U.T.	Surface	25	*1013m.b.	*1018m.b.	*1007m.b.	25	11.9	15.1	9.0	25	5.4
	1000	24	138	177	90	24	14.5	18.0	12.0	24	4.1
	850	24	1501	1547	1454	24	7.7	15.3	2.9	24	— 2.9
	700	24	3086	3157	3018	24	0.8	5.4	— 3.9	24	—13.4
	600	23	4305	4398	4234	23	— 6.5	— 3.0	— 11.5	21	—18.0
	500	22	5714	5816	5622	22	—15.9	—12.8	—19.9	21	—26.0
	400	20	7369	7486	7258	20	—27.1	—24.3	—30.8	20	—38.0
	300	19	9373	9522	9250	19	—43.4	— 38.4	— 48.2	17	—52.3
	250	15	10582	10741	10466	15	—51.6	—47.0	—56.2	10	—59.4
	200	11	12016	12155	11883	11	—58.9	—53.9	—63.1	3	—65.8
	150	6	13766	13895	13690	6	—63.3	—60.5	—66.3	—	—
	100	6	16246	16365	16173	6	—66.8	—63.8	—69.9	—	—
	70	3	18460	18510	18419	3	—64.7	—62.3	—68.6	—	—
	60	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan 0000 U.T.	Surface	31	*992m.b.	*995m.b.	*989m.b.	31	14.1	22.2	8.5	31	1.6
	1000	31	124	152	100	—	—	—	—	—	—
	850	31	1508	1538	1479	31	10.5	19.6	10.0	31	— 2.7
	700	31	3138	3175	3077	31	3.2	13.2	4.0	31	—13.9
	600	31	4391	4455	4320	31	1.1	4.6	— 2.2	31	—19.6
	500	31	5830	5902	5746	31	— 9.2	— 6.5	—12.8	31	—26.9
	400	31	7517	7595	7429	31	—21.5	—18.8	—25.2	31	—36.2
	300	31	9569	9672	9469	31	—37.8	—34.4	—43.4	31	—48.8
	250	31	10803	10918	10690	31	—46.4	—43.1	—49.9	31	—56.2
	200	30	12252	12388	12128	30	—56.2	—52.2	—60.3	27	—64.4
	150	29	14045	14220	13919	29	—63.4	—56.6	—70.8	1	—71.2
	100	24	16483	16651	16347	24	—72.8	—69.5	—77.7	—	—
	70	15	18601	18740	18500	15	—72.4	—62.4	—81.1	—	—
	60	13	19511	19650	19414	13	—66.8	—59.8	—71.0	—	—
	50	13	20821	20764	20514	13	—62.1	—57.6	—65.3	—	—
	40	10	22021	22145	21954	10	—59.0	—56.7	—61.7	—	—
	30	8	23863	23977	23819	8	—52.6	—47.7	—58.0	—	—
	20	4	26501	26558	26432	4	—46.5	—43.2	—52.0	—	—
	10	1	31048	—	—	1	—37.2	—	—	—	—

N = The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

Note : Climatological upper air data for Helwan at 0000 U.T. are missing, since number of days of release of radiosonde sets at this station are less than the permissible number needed for calculating or processing monthly values.

UPPER AIR CLIMATOLOGICAL DATA

Table B 1 (*contd*). **MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES**

DECEMBER — 1969

Station	Pressure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh 1200 U.T.	Surface	31	*1012m.b.	*1018m.b.	*1003m.b.	31	19.1	24.7	17.2	31	7·5
	1000	31	129	181	54	31	18.1	24.0	16.0	31	5.7
	850	31	1488	1545	1406	31	6.9	16.3	0.5	31	— 5.5
	700	31	3059	3140	2996	31	0.4	5.6	— 5.0	31	—16.3
	600	31	4296	4381	4193	31	— 6.8	— 2.4	—13.6	30	—22.1
	500	29	5695	5798	5550	29	—16.7	—12.7	—25.0	29	—30.9
	400	27	7338	7418	7126	27	—28.2	—23.8	— 39.3	27	—41.3
	300	26	9348	9449	9083	26	—42.4	—37.8	—48.3	21	—53.7
	250	24	10556	10679	10299	24	—50.7	—46.2	— 54.7	18	—64.7
	200	18	11998	12167	11759	18	—58.5	— 52.8	—63.8	7	—67.4
	150	6	13774	13829	13675	6	—62.8	— 60.9	—64.5	—	—
	100	3	16216	16290	16178	3	—66.1	—64.3	—67.1	—	—
	70	1	18364	—	—	1	—67.3	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 2 U.T.	Surface	30	999m.b.	1004m.b.	993m.b.	30	20.2	26.3	16.5	30	5.8
	1000	30	133	174	84	15	19.9	26.3	16.4	15	5.5
	850	30	1503	1546	1459	30	10.2	18.0	4.3	30	— 4.5
	700	30	3127	3177	3045	30	3.2	7.5	— 1.4	30	—14.6
	600	30	4338	4432	4259	30	— 3.9	1.0	— 9.2	30	—21.2
	500	30	5754	5865	5658	30	—13.4	—10.2	—17.5	30	—28.6
	400	30	7413	7542	7297	30	—25.5	—20.8	—29.5	30	—39.0
	300	29	9442	9578	9300	29	—40.3	—36.2	—44.3	29	—51.6
	250	27	10671	10862	10511	27	—49.3	—46.5	—54.0	25	—59.5
	200	27	12062	12255	11940	27	—57.4	—52.5	—65.6	20	—65.7
	150	24	13859	14015	13734	24	—62.0	—58.0	—69.4	6	—69.8
	100	22	16389	16529	16225	22	—67.8	—67.4	—76.2	—	—
	70	17	18513	18669	18405	17	—66.3	—61.5	—72.8	—	—
	50	14	20511	20670	19389	14	—63.1	—59.9	—67.0	—	—
	40	14	21609	21733	20175	14	—59.7	—54.1	—63.7	—	—
	30	10	23084	23200	21959	10	—54.2	—49.1	—60.1	—	—
	20	9	23860	24003	23769	9	—52.4	—43.6	—58.1	—	—
	10	2	26416	26439	26393	2	—49.6	—46.0	—51.9	—	—
		1	30926	—	—	1	—48.4	—	—	—	—
Aswan 1200 U.T.	Surface	31	*991m.b.	*995m.b.	*988m.b.	31	25.0	31.0	20.0	31	6.5
	1000	31	113	150	88	—	—	—	—	—	—
	850	31	1513	1529	1486	31	16.6	23.2	8.3	31	— 5.3
	700	30	3142	3177	3102	30	9.3	13.8	4.9	30	—14.4
	600	30	4407	4454	4350	30	1.9	5.2	— 3.0	30	—19.1
	500	30	5851	5905	5784	30	— 8.1	— 4.7	—12.9	30	—26.6
	400	29	7546	7617	7463	29	—20.4	—16.2	—26.2	29	—37.6
	300	28	9613	9704	9501	28	—36.0	—31.9	—39.0	28	—49.4
	250	28	10856	10960	10746	28	— 45.2	— 41.9	— 48.6	28	—57.2
	200	27	12310	12432	12191	27	— 54.9	— 50.0	— 59.6	27	— 65.3
	150	24	14120	14244	13992	24	—61.9	—57.6	—67.8	5	—69.1
	100	22	16570	16767	16434	22	—71.0	—63.7	—76.4	—	—
	70	14	18655	18901	18430	14	—70.7	—65.4	— 75.3	—	—
	50	10	19556	19665	19490	10	— 66.9	—63.4	—71.0	—	—
	30	10	20676	20742	20607	10	—61.1	—56.5	—64.3	—	—
	40	8	22073	22175	22015	8	—56.4	—53.2	—58.7	—	—
	30	7	23926	24029	23876	7	—50.8	—49.4	—52.2	—	—
	20	6	26620	26744	26545	6	—43.1	—39.6	— 49.8	—	—
	10	—	—	—	—	—	—	—	—	—	—

N — The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

Table B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE THE HIGHEST WIND SPEED IN THE UPPER AIR

DECEMBER — 1969

	STATION	Freezing Level									First Tropopause									Highest wind speed			
		Mean			Highest			Lowest			Mean			Highest			Lowest						
		Altitude (gpm)	Pressure (mb.)	Dew Point (°C)	Altitude (gpm)	Pressure (mb.)	Dew Point (°C)	Altitude (gpm)	Pressure (mb.)	Dew Point (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Direction (000—360°)	Speed in knots
0000 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	Merra Matruh .	3075 (24)	702 (24)	—11.8 (23)	3970	634	—10.7	1860	809	—3.9	12085 (9)	199 (9)	—60.0 (9)	13783	159	—66.9	10900	241	—52.8	11140	230	240	165
	Helwan . . .	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Aswan	4514 (31)	589 (31)	—20.2 (30)	5040	557	—25.0	3630	655	—18.6	15773 (19)	115 (19)	—72.5 (19)	17950	79	—79.5	12420	191	—59.5	11965	210	258	136
1200 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	Mersa Matruh	3066 (31)	703 (31)	—15.8 (30)	4030	625	—13.8	1830	813	—7.2	11360 (11)	226 (11)	—57.2 (11)	13990	145	—65.2	7116	400	—39.5	10170	260	250	165
	Helwan . . .	3675 (30)	654 (30)	—17.6 (30)	4590	590	—22.1	2740	739	—12.1	13050 (21)	177 (21)	—61.8 (21)	17000	93	—73.8	10670	243	—52.0	9560	355	200	150
	Aswan	4700 (30)	579 (30)	—20.8 (30)	5200	545	—18.6	3910	634	—21.4	15957 (15)	114 (15)	—70.8 (15)	18060	77	—78.5	13300	173	—65.2	11510	225	262	154

N — The number of cases the element has been observed during the month.

Table B 3. NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

MERSA MATRUH (A) — DECEMBER 1969

Time	Pressure Surface (Millibar.)	Wind between ranges of direction (000 – 360)																						Number of Calm winds	Total Number of Observations (TN)	Mean Scalar wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 T.U.	Surface	2	8	0	—	0	—	0	—	1	12	5	8	5	11	5	11	6	13	1	10	0	—	1	16	0	26	11
	1000	0	—	0	—	0	—	1	10	0	—	3	20	3	20	3	18	3	13	3	23	1	27	0	—	0	17	19
	850	0	—	0	—	0	—	0	—	1	8	0	—	2	18	3	18	6	18	2	16	2	23	1	7	0	17	16
	700	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	27	8	35	4	22	3	42	0	—	0	16	33
	600	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	64	6	56	6	33	2	45	0	—	0	15	46
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	68	4	51	4	44	1	73	0	14	57
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	62	4	60	6	77	1	56	0	—	0	12	68
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	78	6	96	2	70	0	—	0	9	88
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	145	4	81	2	82	0	—	0	7	90
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	135	0	—	2	120	0	—	0	—	0	3	125
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	119	1	96	0	—	0	2	108
	100	—	—	—	—	—	—	—	—	—	—	—	—	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 T.U.	Surface	1	5	1	10	0	—	0	—	0	—	3	14	4	15	3	9	5	19	7	16	4	16	3	10	0	31	14
	1000	0	—	0	—	1	9	0	—	0	—	2	15	3	15	5	16	3	21	8	23	7	18	2	11	0	31	18
	850	0	—	0	—	0	—	0	—	0	—	1	16	3	15	7	15	4	24	9	22	5	19	2	11	0	31	19
	700	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	29	14	30	9	34	5	57	0	—	0	31	31
	600	0	—	0	—	0	—	1	—	0	—	0	—	0	—	2	56	12	42	10	44	6	44	1	36	0	31	41
	500	0	—	0	—	0	—	0	—	0	—	0	—	1	72	1	67	10	58	10	53	6	50	0	—	0	28	56
	400	0	—	0	—	0	—	0	—	0	—	0	—	1	88	0	—	7	83	13	69	5	57	0	—	0	26	72
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	124	12	96	3	63	0	—	0	20	98
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	110	6	94	4	87	0	—	0	11	93
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	87	3	91	0	—	0	6	89
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	80	0	—	0	—	0	1	80
	100	—	—	—	—	—	—	—	—	—	—	0	—	—	—	—	—	—	—	—	—	—	—	0	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N= The number of cases the wind has been observed from the range of direction during the month.

TN=The total number of cases the wind has been observed during the month.

Table B 3. (*contd.*)—**NUMBER OF OCCURRENCES OF WIND DIRECTION WITHEN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES**

HELWAN — DECEMBER 1969

Time	Pressure Surface (Millibar.)	Wind between ranges of direction (000—360)°																						Number of Calm winds	Total Number of Observations (T.N)	Mean Scalar wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
1200 T.U.	Surface	1	8	2	11	2	8	0	—	0	—	1	5	3	8	11	6	3	4	4	5	1	7	2	9	0	30	7
	1000	1	19	2	11	1	5	0	—	0	—	1	4	0	—	5	5	1	6	0	—	1	7	3	12	0	15	8
	850	7	10	1	10	1	16	0	—	1	7	0	—	3	10	5	42	5	20	5	21	1	12	1	14	0	30	16
	700	0	—	0	—	0	—	1	8	0	—	0	—	1	23	0	—	16	36	5	34	3	31	3	24	0	29	32
	600	0	—	0	—	0	-	0	—	0	—	0	—	0	—	3	51	12	35	6	48	4	38	2	69	0	27	43
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	15	27	4	42	4	57	2	74	0	25	60
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	9	68	6	66	1	52	1	71	0	17	67
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	103	4	83	2	77	0	—	0	10	90
	250	0	-	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	59	3	87	0	—	0	4	80
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	47	1	104	0	—	0	2	76
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	54	0	—	0	—	0	1	54
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	-	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N= The number of cases the wind has been observed from the range of direction during the month.

TN=The toatl number of cases the wind has been observed during the month.

Table B3.—(*contd.*) NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELCECTED PRESSURE SURFACES

ASWAN (A) — DECEMBER 1969

Time	Pressure Surface (Millibar.)	Wind between ranges of direction (000—2(0°)																						Num er of Calm winds	Total Number of Observations (T.N)	Mean Scaler wind Speed (Knots)
		345 / 014		015 / 643		045 / 074		075 / 104		105 / 134		135 / 164		1 5 / 194		195 / 224		2?5 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	)ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	)ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 T.U.	Surface	19	8	4	10	0	—	0	—	1	6	0	—	0	—	0	—	0	—	1	5	0	—	6	17	0	31	8
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	2	8	2	14	3	8	2	8	2	7	1	2	1	3	2	11	1	5	4	19	3	13	2	8	0	28	9
	700	1	4	1	16	0	—	0	—	1	4	0	—	1	10	1	14	9	17	7	28	5	22	2	10	0	28	19
	600	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	27	6	36	14	36	4	21	1	12	0	28	29
	500	0	—	1	12	0	—	0	—	0	—	0	—	0	—	0	—	10	41	12	40	3	35	2	34	0	28	39
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	8	54	13	56	4	47	3	41	0	28	53
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	76	15	65	5	62	2	40	0	28	65
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	95	15	74	9	73	3	55	0	28	72
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	88	14	83	8	80	3	64	0	27	84
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	65	15	82	6	77	1	70	0	25	78
	100	0	—	0	—	0	—	0	—	0	—	0	—	2	30	3	41	8	56	2	54	0	—	0	15	0	15	50
	70	1	11	0	—	0	—	0	—	0	—	3	21	0	—	1	31	1	15	2	19	0	—	0	8	0	8	20
	60	0	—	0	—	0	—	0	—	0	—	0	—	3	15	1	21	2	21	1	17	0	—	0	7	0	7	18
	50	0	—	0	—	0	—	0	—	0	—	2	10	1	5	1	13	2	12	1	7	0	—	0	7	0	7	13
	40	0	—	0	—	0	—	1	7	0	—	0	—	0	—	0	—	2	8	1	10	1	10	1	6	0	6	7
	30	1	7	0	—	0	—	0	—	1	10	1	8	0	—	0	—	0	—	0	—	0	—	0	3	0	3	8
	20	0	—	—	—	1	15	1	29	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	22
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 T.U.	Surface	17	9	3	6	0	—	0	—	1	8	1	3	0	—	0	—	0	—	0	—	0	—	7	9	2	31	8
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	2	12	4	7	2	10	2	6	1	13	1	9	3	3	3	9	2	8	5	13	4	7	2	12	0	31	9
	700	2	8	0	—	0	—	2	4	1	2	0	—	0	—	4	16	3	16	10	20	6	17	0	—	0	30	16
	600	1	10	1	6	0	—	0	—	0	—	0	—	1	21	2	23	10	25	11	34	3	29	1	22	0	30	28
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	9	37	17	37	3	31	1	14	0	30	26
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	46	18	52	3	53	1	33	0	29	51
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	78	20	67	6	52	1	36	0	28	63
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	73	17	76	8	75	2	50	0	28	73
	200	0	—	0	—	9	—	0	—	0	—	0	—	0	—	0	—	0	—	18	90	6	75	2	72	0	26	75
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	52	13	78	4	62	1	67	0	20	72
	100	0	—	0	—	0	—	0	—	0	—	0	—	1	35	0	—	2	38	10	55	3	50	0	—	0	16	57
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	32	4	32	1	22	1	24	1	32	0	8	30
	60	0	—	0	—	0	—	0	—	0	—	0	—	1	20	0	—	1	11	2	33	3	27	0	—	0	7	25
	50	0	—	0	—	0	—	1	12	0	—	0	—	0	—	0	—	0	—	4	20	0	—	0	—	0	5	18
	40	0	—	1	5	1	7	0	—	0	—	0	—	1	8	0	—	0	—	1	7	0	—	0	—	0	4	7
	30	1	6	0	—	0	—	0	—	1	10	0	—	0	—	1	5	1	20	0	—	0	—	0	—	0	4	10
	20	0	—	0	—	0	—	1	20	1	14	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	17
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N=The number of cases the wind has been observed from the range of direction during the month

TN=The total number of cases the wind has been observed during the month

REVIEW OF AGRO-METEOROLOGICAL STATIONS

MERSA MATRUH — DECEMBER 1969

This month as a whole was slightly cooler than normal and appreciably less rainy. The total monthly rainfall was only 0.9 mm. against 37.9 mm. for normal. The month was characterized by three light cold waves during the periods (3rd-7th), (13th-19th) and (22nd-25th). The last cold wave yielded the lowest maximum air temperature for the month (16.8°C) on the 25th. Two light warm spells occurred on the 2nd and in the period (8th, 9th). The first warm spell yielded the highest maximum air temperature for the month (25.6°C).

The mean daily actual duration of bright sunshine was 0.9 hour more than the corresponding value of El Kasr in December 1968.

TAHRIR — DECEMBER 1969

This month as a whole was slightly warmer than last December and almost rainless. Two warm spells were experienced during the periods (2nd - 3rd) and (9th - 11th). During rest of the month, the daily maximum air temperatures were slightly round normal. The first warm spell yielded the highest maximum air temperature for the month (27.7°C) and the lowest relative humidity (20%) on the 3rd. The lowest maximum air temperature for the month (19.6°C) was reported on the 23rd.

The extreme maximum soil temperatures were higher than the corresponding values of last December at all depths apart from the 5 cm. depth where it was 0.3 °C lower ; the differences varied between 0.6°C at 10 cm. and 1.5°C at both 20, 50 cm. The extreme minimum soil temperatures were higher than the corresponding values of last December at depths between 2, 10 cm. and also at 100 cm. with differences ranging between 0.3°, 0.8C. At 20 cm. depth the extreme minimum soil temperature was 0.2°C lower, and at 50 cm. it was the same as last December.

The mean daily Pan evaporation was 0.2 mm. more than the corresponding value of December 1968. The mean daily actual duration of bright sunshine was 1.1 hour more than December 1968.

BAHTIM — DECEMBER 1969

This month as a whole was slightly cooler than last December and almost rainless. Two warm spells occurred during the periods (2nd - 3rd) and (9th - 11th). During rest of the month the daily maximum air temperatures were below normal. The first warm spell yielded the highest maximum air temperature for the month (27.0°C) on the 2nd. The second warm spell yielded the lowest relative humidity (13%) on the 9th. The lowest maximum air temperature for the month (18.9°C) was reported on the 15th.

The extreme maximum soil temperatures were higher than the corresponding values of last December at all depths apart from the 5 cm. depth where it was slightly lower (0.2°C); the differences vaired between 2.9°C at 2 cm. and 0.5°C at 100 cm. The extreme minimum soil temperatures were lower than the corresponding values of last December at depths between 2, 20 cm. with differences between 1.8°C at 2 cm. and 0.2°C at 20 cm. At 50, 100 cm. the extreme soil minima were higher than last December by 0.5°, 0.3°C respectively.

The mean daily Pan evaporation was 0.24 mm. more than the corresponding value of December 1968. The mean daily actual duration of bright sunshine was 1.1 hour more than December 1968.

KHARGA DECEMBER 1969

This month as a whole was slightly warmer than normal. Two warm spells were experienced during the periods (2nd - 4th) and (7th - 12th). During rest of the month the daily maximum air temeperatures were mostly below normal. The second warm spell yielded the highest maximum air temperature for the month (31.5°C) on the 11th and the lowest relative humidity (9%) on the 9th. The lowest maximum air temperature for the month (19.8°C) was reported on the 23rd.

The extreme maximum soil temperatures were higher than the corresponding values of last December at all depths between 2, 100 cm., with differences ranging between 4.1°C at 2 cm. and 1.0°C at 100 cm. The extreme minimum soil temperatures were lower than the corresponding values of last December at depths between 2, 20 cm. with differences between 0.5, 1.0°C. At 50, 100 cm. the extreme soil minima were higher than last December by 0.3, 1.0°C respectively.

The mean daily Pan evaporation was 0.41 mm. more than the corresponding value of December 1968. The mean daily actual duration of bright sunshine was 0.2 hour less than December 1968.

Table C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

DECEMBER — 1969

STATION	Air Temperature (°C)					Mean Duration in hours of daily air temperature above the following values										
	Mean Max.	Mean Min.	Mean of the day	Night time mean	Day time mean	– 5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C
Mersa Matruh . .	19.9	9.1	14.0	11.7	16.3	24.0	24.0	23.9	19.8	9.0	1.2	0.1	0.0	0.0	0.0	0.0
Tahrir	22.1	7.3	13.7	10.6	17.0	24.0	24.0	23.3	17.6	9.6	2.9	0.1	0.0	0.0	0.0	0.0
Bahtim	21.7	6.8	13.5	10.4	16.7	24.0	24.0	23.4	18.0	8.4	2.2	0 2	0.0	0.0	0.0	0.0
Kharga	24 5	7.0	16.0	12.5	19.5	24.0	24.0	23.1	19.6	13.1	6.3	1.7	0.2	0.0	0.0	0.0

Table C 2. EXTREME VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cm ABOVE GROUND OVER DIFFERENT FIELDS

DECEMBER — 1969

STATION	Max. Temp. at 1½ metres (°C)				Min. Temp. at 1½ metres (°C)				Min. Temp. at 5 cms. above (°C)			
	Highest		Lowest		Highest		Lowest		Dry soil		Grass	
	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Nalue	Date
Mersa Matruh . . .	25.6	2	16.8	25	13.1	3	4.5	6	2.0	8	—	—
Tahrir	27.7	3	19.6	23	11.8	2	2.1	7	0.8	8	—	—
Bahtim	27.0	2	18.9	15	11.2	4	1.4	29	1.0	9	—	—
Kharga	31.5	11	19.8	23	13.8	11,13	1.6	25	0.0	28	—	—

Table C 3. (SOLAR+SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL

DECEMBER — 1969

STATION	(Solar+Sky) Radiation gm. cal/cm²	Duration of Bright Sunshine (hour .)			Relative Humidity				Vapour pressure (mms)						Evaporation (mms)		Rainfall (mms)		
		Total Actual monthly	Total Possible monthly	%	Mean of day	1200 U.T.	Lowest	Date	Mean of day	1200 U.T.	Highest	Date	Lowest	Date	Piche	Pan lass A	Total Amount Monthly	Max. fall in one day	Date
M. Matruh .	248.1	239.7	313.9	76	64	49	21	9	7.5	8.0	12.2	11	3.3	29	7.6	10.26	0.9	0.7	15
Tahrir . . .	239.0	250.0	316.8	79	66	43	20	3	7.6	8.0	14.9	11	3 3	30	5.1	4.04	Tr.	Tr.	30
Bahtim . . .	250.3	239.9	317.4	75	62	39	13	9	7.0	7.2	12.8	12	3.0	9	5.0	3.83	Tr.	Tr.	23
Kharga . .	307.4	297.4	329 2	90	40	27	9	9	5.2	5.7	10.4	11	2.0	9	9.2	6.60	0.0	—	—

Table C. 4.—EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS (cms) IN DIFFERENT FIELDS

DECEMBER 1969

STATION	Highest (H) Lowest (L)	Extreme soil temperature (°C) in dry field at different depths (cms.)								Extreme soil temperature (°C) in grass field at different depths (cms.)							
		2	5	10	20	50	100	200	300	2	5	10	20	50	100	200	300
Mersa Matruh . .	H	35.1	22.7	20.3	19.0	19.5	21.1	23.4	—	—	—	—	—	—	—	—	—
	L	6.1	7.7	10.0	12.2	15.4	17.6	21.2	—	—	—	—	—	—	—	—	—
Tahrir	H	30.2	26.4	22.8	20.9	21.2	23.0	24.6	25.4	—	—	—	—	—	—	—	—
	L	6.9	7.8	10.0	13.6	16.4	18.9	21.8	23.7	—	—	—	—	—	—	—	—
Bahtim	H	32.1	25.0	22.3	21.2	23.6	25.1	26.5	26.3	—	—	—	—	—	—	—	—
	L	6.2	9.4	13.0	16.4	19.4	22.0	24.6	25.7	—	—	—	—	—	—	—	—
Kharga	H	35.8	30.4	26.9	23.8	25.8	28.0	29.6	30.1	—	—	—	—	—	—	—	—
	L	4.4	7.7	12.0	16.5	20.8	24.6	27.9	29.2	—	—	—	—	—	—	—	—

Table C 5.—SURFACE WIND

DECEMBER 1969

STATION	Wind Speed m/sec at 1.5 metres			Days with surface wind speed at 10 metres							Max. Gust at 10 metres	
	Mean of the day	Night time mean	Day time mean	≥10 knots	≥15 knots	≥20 knots	≥25 knots	≥30 knots	≥35 knots	≥40 knots	value	Date
Marsa Matruh	4.5	4.0	5.0	30	25	17	12	4	0	0	36	25
Tahrir . . .	2.1	1.5	2.7	21	14	8	4	1	0	0	39	30
Bahtim . . .	2.0	1.4	2.7	—	—	—	—	—	—	—	—	—
Kharga . . .	2.3	1.6	3.0	23	8	2	0	0	0	0	26	5,13

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